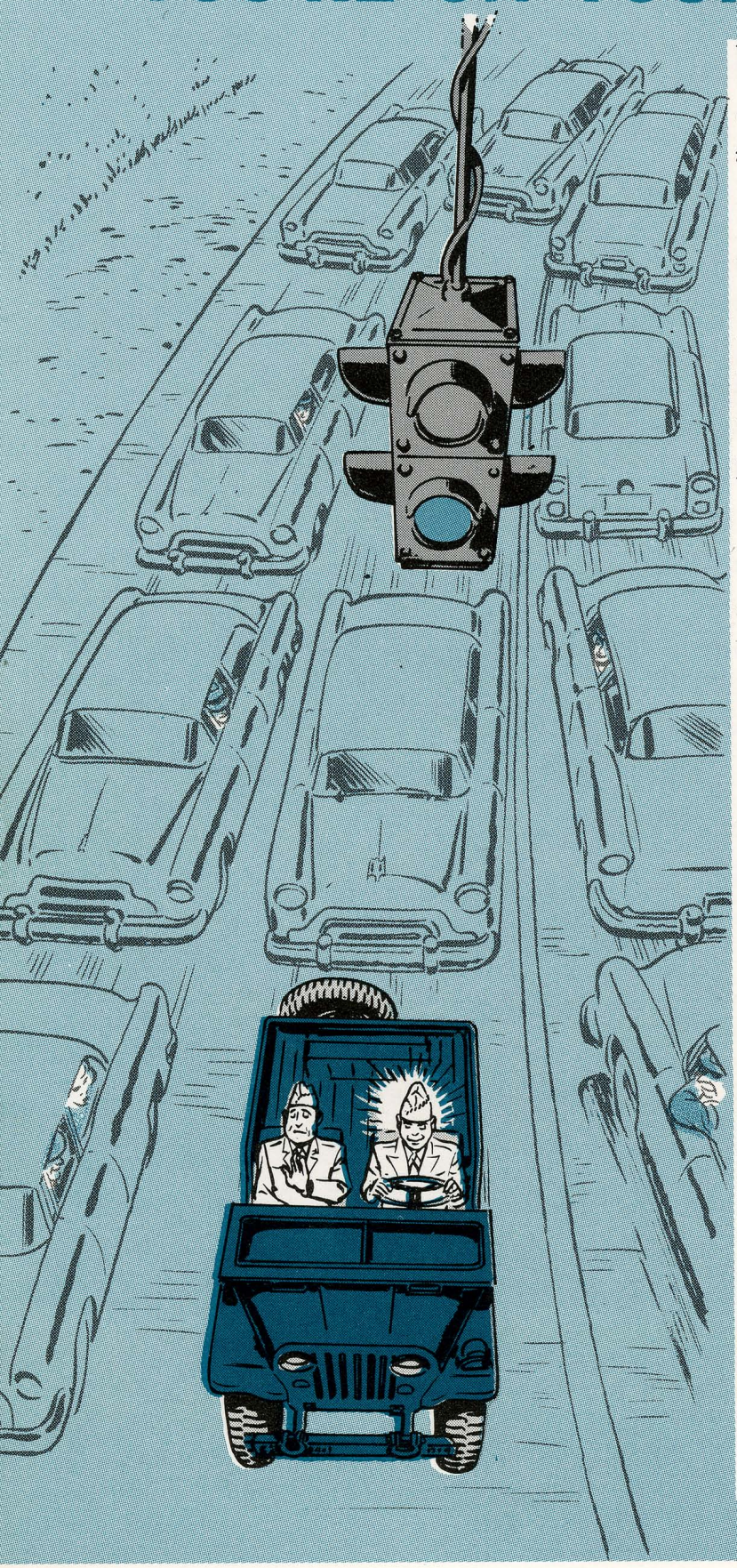
Issue 58
PS
1957 Series
THE PREVENTIVE MAINTENANCE MONTHLY
END OF CONVOY
WILL EISNER

YOU'RE ON YOUR OWN



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But, let's not lose our heads. Even though you're away from the post, with no "on-post" restrictions controlling you, you can't go hog-wild with your buggy. You're right under the nose of the guys who boss your bosses, the tax-payin' public, that is.

Remember that these days there are lots of people who can read your bumpers. They know that your car is Headquarters 21 of the Umphteenth Messkit Repair Battalion from Fort Flotzmo as soon as they see it.

And you don't want the Old Man calling you in to ask "Why was your sedan doing 75 miles an hour on Highway 27 at oh-nine-hundred today?"

But that's not all! Even if you don't goof bad enough to make some Joe turn you in, you can still cause your outfit a hard time. And that makes it harder all around.

Your chances of making time with your local living doll won't be a bit good if her pop has just been run off the road by a GI truck, no matter who was driving it.

More and more we'll see small posts, AAA batteries, radar posts and so on

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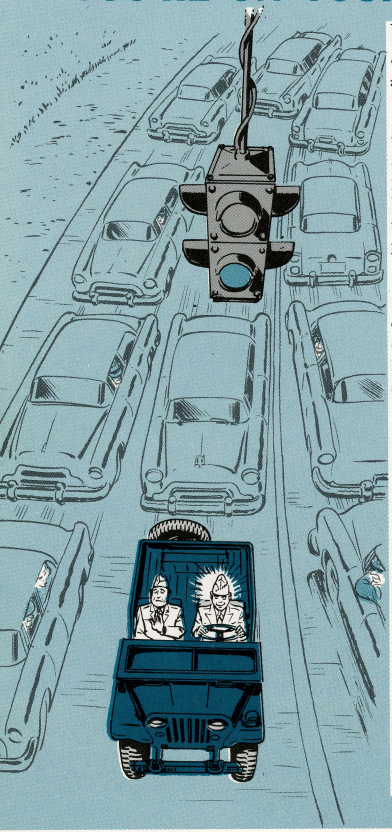

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More and more we'll see small posts, AAA batteries, radar posts and so on scattered around among the towns and cities. So we'll have more and more GI vehicles running off-the-post with the driver on his own responsibility. This can be real good.

Always remember that you're on display. The people you've got to live and work with are all around you. So drive your vehicle like the level-headed driver you are. Always inside the speed limit, and with consideration for other drivers. On dual highways, be sure you're in the right-hand lane except when passing, and don't pull left without looking behind you.

And for gossakes never run any traffic lights unless you know that there's a military road guard or a civilian traffic officer holding cross traffic for you. Believe it, plowing into a school bus would set the Army back ten years with the public, not to mention the trouble you'd be in.

Always remember that the guy standing on the corner may be a million-mile truck driver, watching your driving with an expert's critical eye. Drive so that he too can be proud of our Army drivers.

And jot down where you'll remember: Good driving is good Preventive Maintenance.

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Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from Preventive Maintenance Agency, Raritan Arsenal, Metuchen, New Jersey.

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PS wants your ideas and contributions, and is glad to answer your questions. Just write to: **Sgt Half-Mast, PS, Raritan Arsenal, Metuchen, New Jersey.** Names and addresses are kept in confidence.

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MISSILE NOTES

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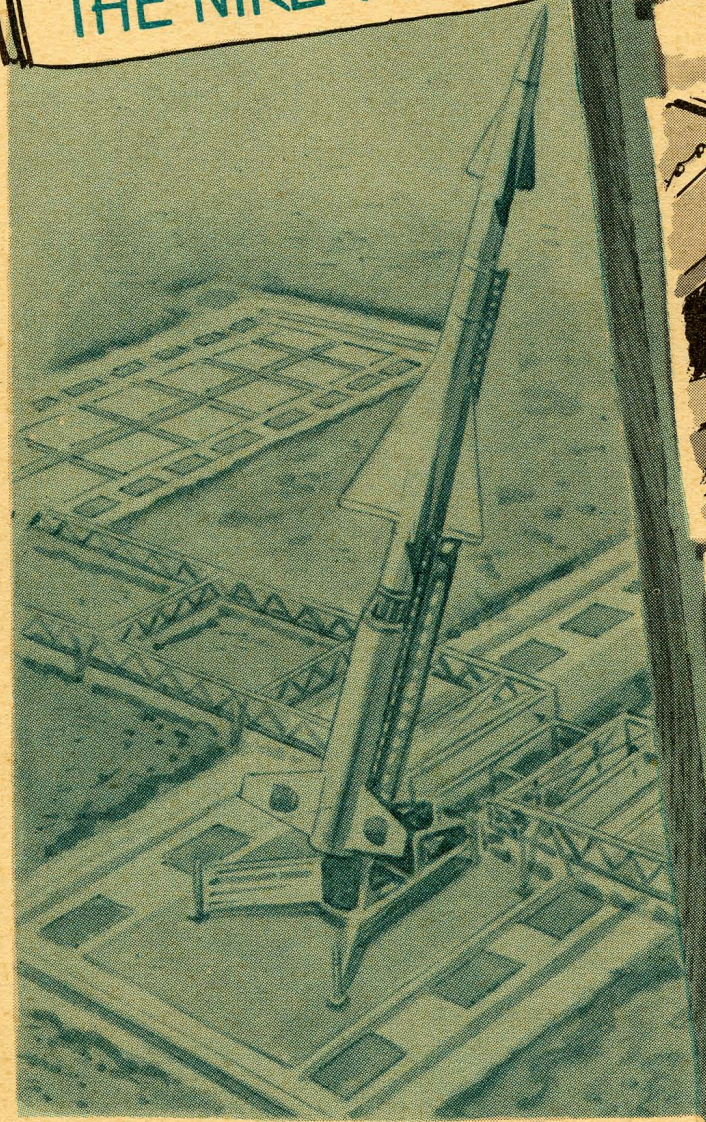

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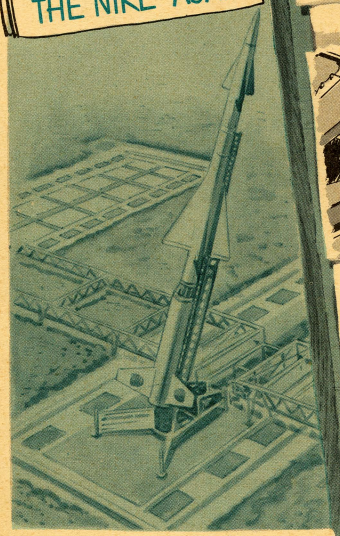

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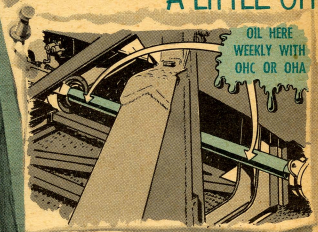

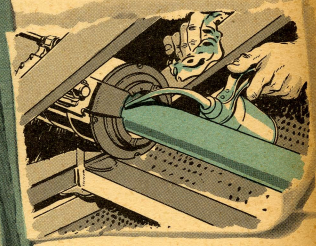

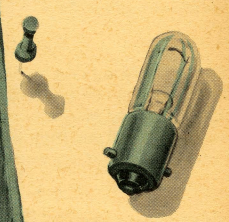

(OHA) GOES A LONG WAY

You launcher-loader missilemen shouldn't make any "dry" runs when it comes to operation of the piston rod bearing in the launcher operating cylinder.

Some outfits come a cropper of "O" ring breakdowns which usually can be traced to a dry piston rod. This happens when the launcher isn't used for a spell. A dry rod causes the "O" ring to roll in its groove... and this leads to a partial or complete breakdown. Next thing you know you have oil leaks.

What to do? For one thing... once a week wipe some OHC or OHA on the section of the piston shaft that you can get to. And try squirting some into the slot at the rear of the cylinder.

You'll also be on the ball if you operate the launchers once a a week. But don't raise 'em all the way the first crack outta the barrel. When you go to raise the launcher, let the piston travel about two inches... stop... bring the launcher back down... and then bring her full up. With this deal, the "O" ring will be lubed by the oil brought in on the back side of the piston head.

Incidentally... once the piston rod has moved those two inches don't be in a rush to bring the launcher down. Wait a bit. This way ...you get the most out of the snubbers when they hit the stop bolts.

LOP LIGHTS

For the battery charge-indicating-lights on your LOP (launching operating panel) you must have GE-47 light bulbs.

The bulb's complete calling name is: Lamp, incandescent, FSN 6240-155-8706, miniature 6-8 volts, single tungsten filament, GE-47 (Ord Stock No. H004-0504521).

Nix on replacing a GE-47 with an 1819 28-volt bulb... save the 1819 bulb for panel lights only.

Any time you're tempted to stick an 1819 in the battery charge indicator you're toying with a double-cross... 'cause the bulb with the higher resistance can give you a good ammeter reading even if the missile's batteries are stone-cold dead.

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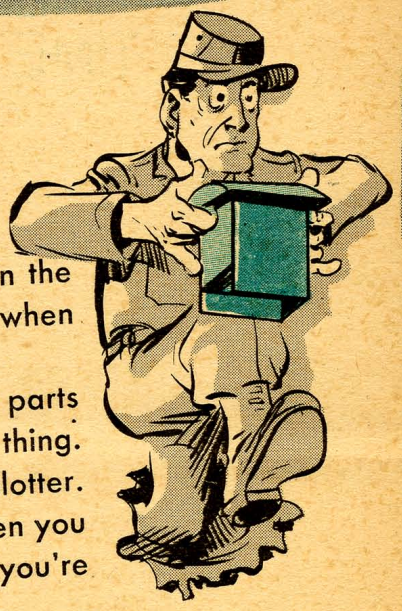
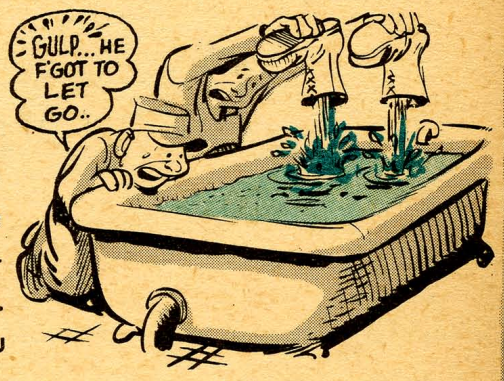


It's no news that parts of the guidance package in the Nike-Ajax missile are as exposed as a new baby when you remove the battery box from the missile.

But, didja know you're asking for corrosion on the parts when you remove the battery box outdoors? Sure thing. Parts of the guidance package take in moisture like a blotter.

So keep this in mind: Replace the battery box when you get to the place where it won't be in your way while you're working on the missile.

BATTERY CHECK



And speaking of batteries... here's a simple check that'll find any leaks you may have in the cells of your BB 401/U batteries. Then you can replace only defective cells instead of the whole set.

All you need is a spare cell cap to which you attach a couple of feet of rubber tubing.

You wash and carefully dry the cell to be tested, install the modified cap ana blow through the tubing. If you don't find any seepage on the clean dry cell, you know there are no leaks below the electrolyte level.

Then, with the tube still installed, you submerge the cell in clean water and blow once more. If you see no bubbles, you have no leaks above the level of electrolyte, so the cell must be good.

Careful—first, be sure you don't suck up a mouthful of acid by mistake. Second, don't under any circumstances use shop compressed air for this test. You could bust the cell real easy.

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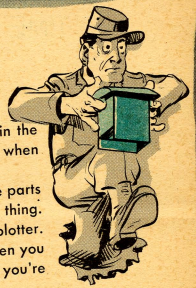

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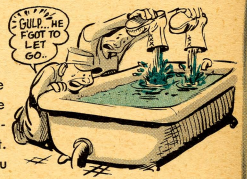

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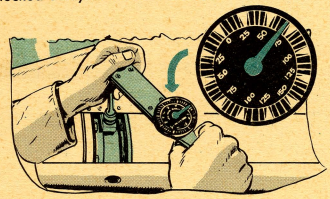
TIME TO REDUCE!

A real crusher—when you over-torque the forward attach bolts that hold the main fins of the missile. What gets crushed is the bearing surface of the forward fin mounting lug.

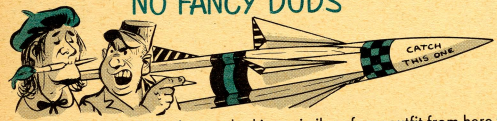
So keep two things tucked away in the old ka-noggin.

The forward attach bolts probably have been torqued at 73 to 100 inch-pounds. Leave 'em alone.



But, when you're assembling new missles, give the bolts 50 to 70 inch-pounds of torque. No more. And use the same figures when you replace the bolts after maintenance or repair work on the missile.

NO FANCY DUDS



You may have the ding-dongest looking missiles of any outfit from here to there, but don't bet on how they'll act when they're heading for the wild blue.

No sir, not when you have painted insignia, stripes and what have you on the missile or its booster. The same thing goes for letting the use of decals get out of hand.

Unauthorized painting or decaling doesn't seem like much, but it doesn't take much to throw the flight of the missile out of whack.

So pay heed to AR 746-2300-1, which tells you that the missile gets painted with the identification "U. S. ARMY" on all four sides of the body. It's up to the Department of the Army to approve any other markings.

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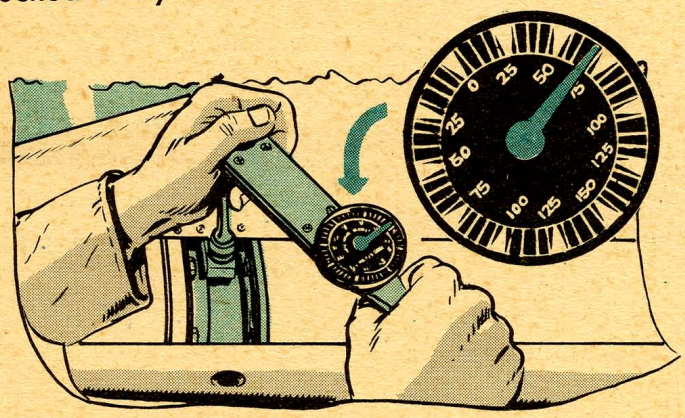

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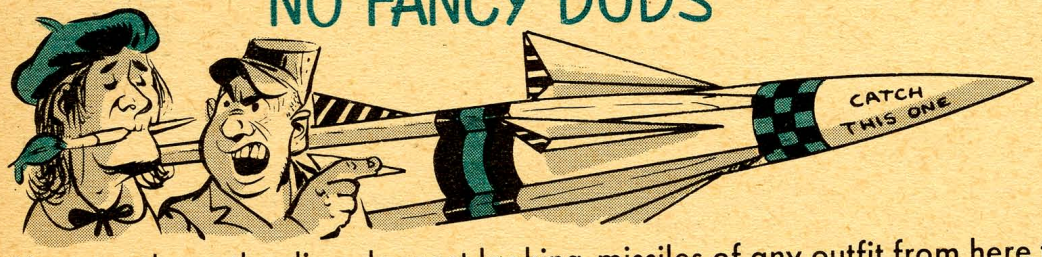

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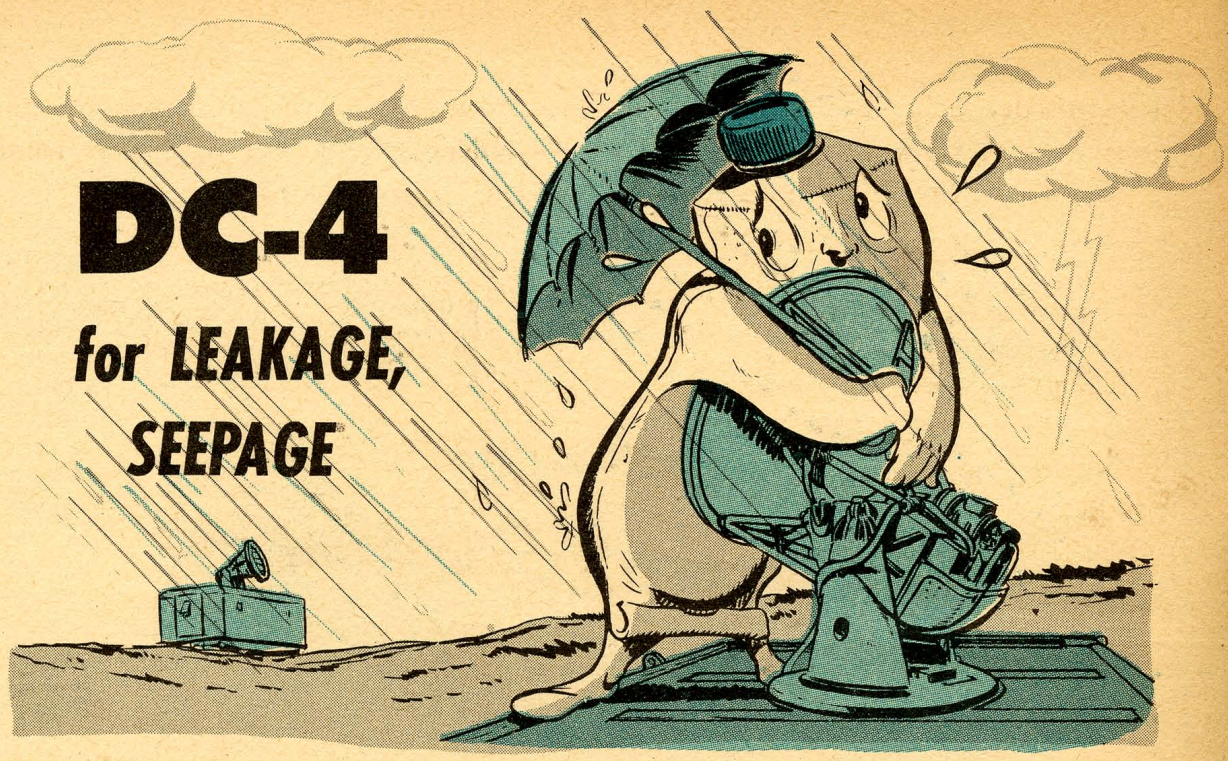
DC-4 for LEAKAGE, SEEPAGE



You M33, M38 and Nike fire control guys wanna get to know DC-4 Compound. It's great stuff.

It'll prevent current leakage along insulated wiring . . . stop moisture seepage into cables and high voltage leads . . . and keep dampness out of water tight seals. And, all you need is a brush or spare finger to apply the butter-like stuff.

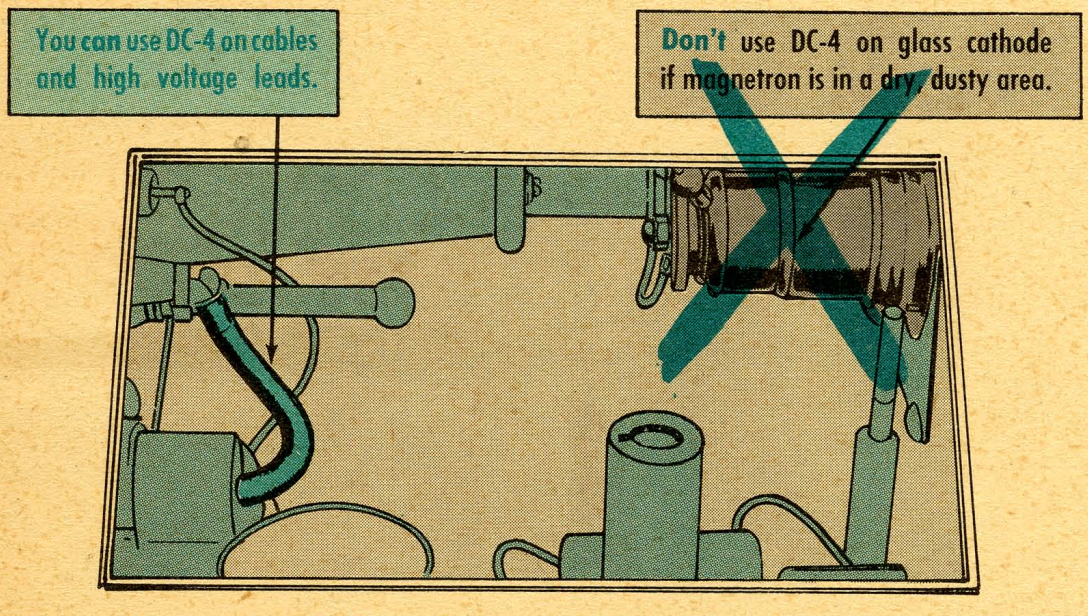
DC-4 works great on all kinds of connectors. You put the compound on both the front and back of the disk insulator.

Wipe or brush it on the front insulator disk and pull the back of the spaghetti insulation to the rear and pack the DC-4 around the wires and terminals. Next . . . run the insulation through the compound until it touches the rear of the insulation through the compound until it touches the rear of the insulation disk. Then coat the insulated cable terminals and you're all set to replace the back shell and cable clamp. Go easy with the compound on the pins of the plug. Too much of the stuff will cause a voltage drop.

You can also use DC-4 on monel gaskets to keep out moisture and prevent corona discharge. These gaskets are usually found in the RF section on high voltage parts.

You might try wiping DC-4 on O-rings and rubber gaskets . . . except those used in the Nike missile. The compound makes it easier to install 'em . . . and it forms a water tight seal.

In a dry, dusty area you don't use the stuff on the glass cathode of magnetrons since the compound collects dust like the underside of a rug. And dust ruins the DC-4's insulating ability.

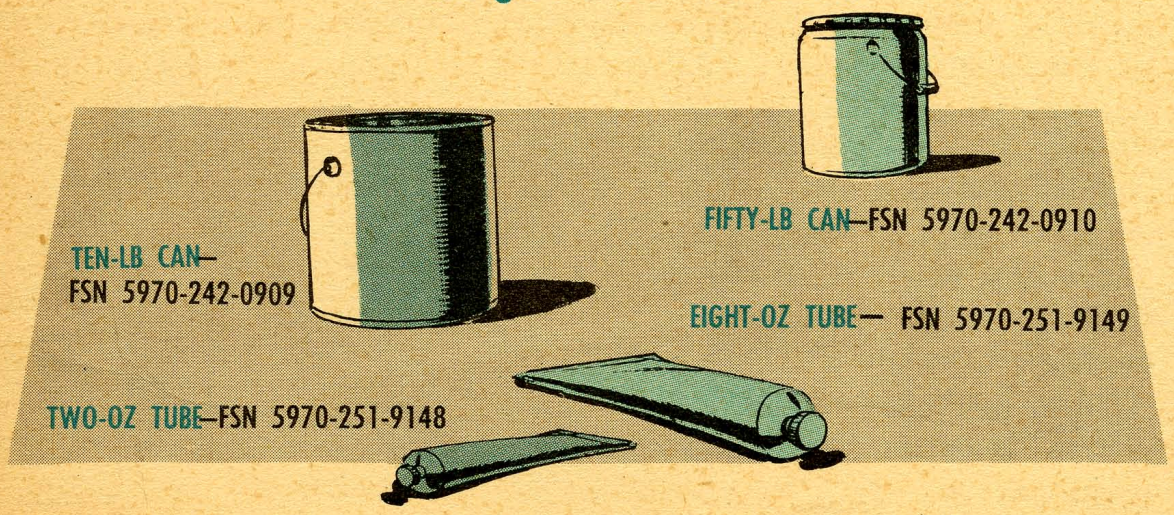


But, if you're in a damp place, ask your Ordnance officer for permission to use the compound to prevent arcing in and around the magnetron hot box. If you're in a dry spot, you won't need DC-4 to prevent arcing.

One more thing—you've gotta remove the compound long before it collects so much dust and dirt it looks like you're trying to raise corn.

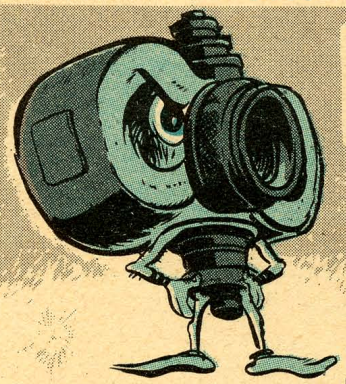
Any one of these solvents will do the job... carbon tet, toluene, xylene, naphtha, lacquer thinner, isopropyl alcohol, or an aromatic gasoline like synthetic enamel remover. After you've cleaned the parts, let 'em dry and then apply some more DC-4.

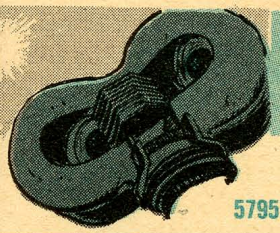
You can get DC-4 in four sizes:



On your M33 FCS or Nike-Ajax,
Here's the 5780 and 5795 magnetron story—

HALF POWER OR FULL POWER?





5795 MAGNETRON

You've talked turkey... you've talked shop... now let's talk magnetrons—the 5795 and 5780 magnetrons.

The 5795 magnetron is used in the M33 and Nike-Ajax fire control system. The original 5795 operated at half power, but there's a new one which operates at full power. You'll be able to get the latest tube when supply runs outta the old one.

You should know that if you're gonna operate the M33 at full power with the new magnetron, the system needs a dozen field changes. By the numbers ... they're 160, 196, 210, 211, 243, 244, 262, 279, 290, 313, 356 and 374. Quiz Ordnance about the changes.

This chart'll give you the scoop on the 5795 magnetron.

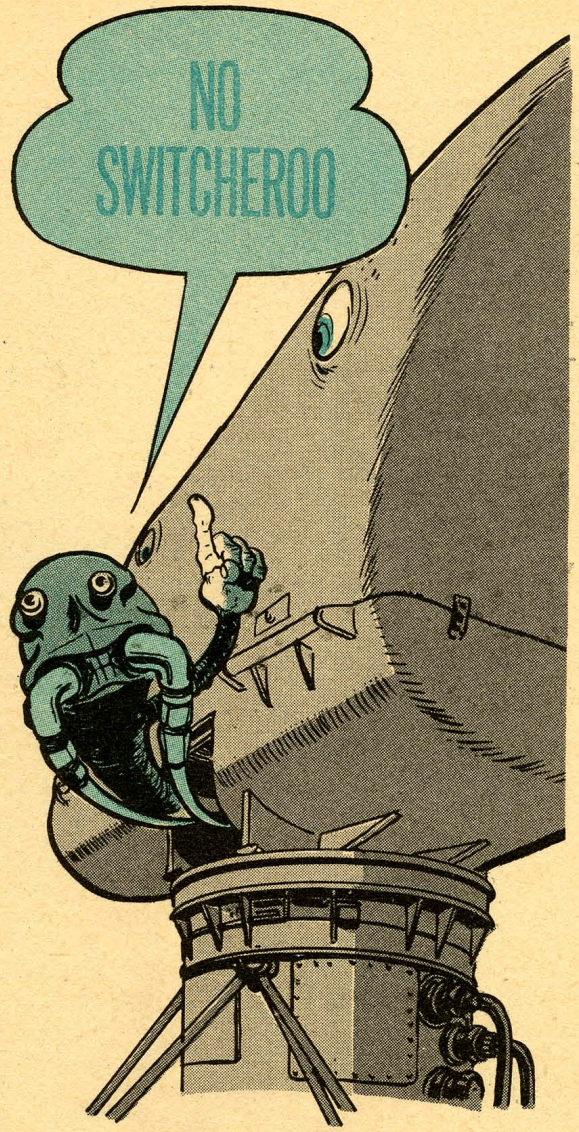
KNOW THAT	Fixed Frequency	Limited Frequency	Half Power	Full Power
TYPE				
IDENTIFICATION	Stamped "Fixed Frequency." No tuning head.	Stamped "Limited Frequency." Tuning head doesn't turn through complete arc.	Filament and high voltage current ratings stamped on magnet.	May be stamped "Full Power." Current not marked on magnet. Some magnets have red dot. Tubes have serial number above 00848-S or 14000 with no letter at the end of number.
LIMITS OF USE	Operates on one frequency only.	Won't work on entire frequency band.	Won't reach full power.	None
ORD STOCK NO	F342-7599353	F342-7599353	F342-7599353	F342-7599353
FIELD USE	None	None	OK with systems not modified to work at full power	This is the one you want.
	Ordnance schools got most of these tubes.	Most of these tubes went to Ordnance schools.	These tubes are used where field changes haven't been applied. May be operated at half power in full power system.	You've gotta apply those 12 field changes to operate at full power. Tube may be used at half power.

The 5780 magnetron is also used in the M33 and Nike-Ajax systems. And, like the 5795, the 5780 magnetron has improved with age. The big improvement is the addition of an arc quencher, which means more power output and more stable operation. You'll be getting the new magnetron when the old ones are used up.

The story on the 5780 is told below:

5780 MAGNETRON

KNOW THAT	TYPE	Limited Frequency	Standard	Arc Quencher
	IDENTIFICATION	Stamped "Limited Frequency" on magnet. Tuning head doesn't turn through complete arc. You can see stops mounted on the gear of the tuning head.	High voltage and filament ratings appear on magnet. Tuning head turns through complete arc.	No markings on magnet. You can see a cap on one side of the wave guide opening.
	LIMITS OF USE	Won't operate on entire frequency band.	None	None
	ORD STOCK NO.	F342-7601960	F342-7599352	F342-7610944
	FIELD USE	None	Acceptable	Preferred
		Most of these tubes were shipped to Ordnance schools.	This tube is now being used.	This tube has a more stable operation. It will replace the other types when their supply is exhausted.



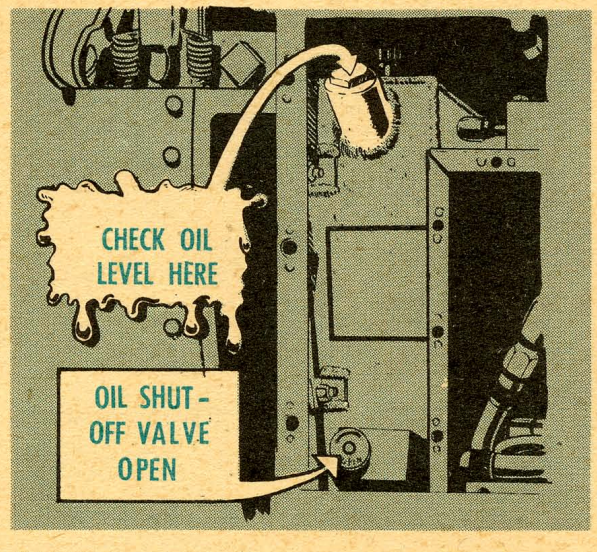
Sometimes swapping equipment parts is like switching dice in a crap game—it causes all kinds of trouble.

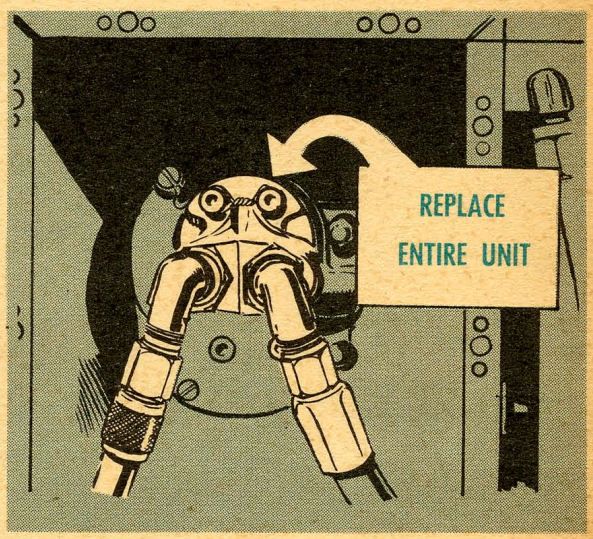
Same stuff with interchanging components of the Pesco and Eastern Industries pumps in the acquisition antenna hydraulic pump assembly in the M33 FCS. Ordnance may have made the switch for you in the past. But no more.

The complete assembly is an authorized item and the parts won't switch—so no more repairs on 'em.

'Nother thing. Before operating the system, be sure of two things: that the

oil shut-off valve is in the open position—and that the oil level is high enough to insure proper lubing of pump bearings and seals.



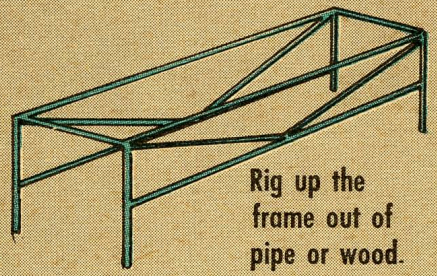


Nike Electronic Shop Vans

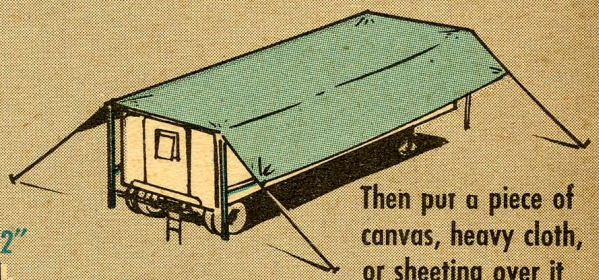
SHADE CAN BE MADE

Having it made in the shade is a hard deal to find in the Army—or anywhere. But guys working in Nike battery electronic shop vans are gonna have it that way when their air conditioning ship comes in.

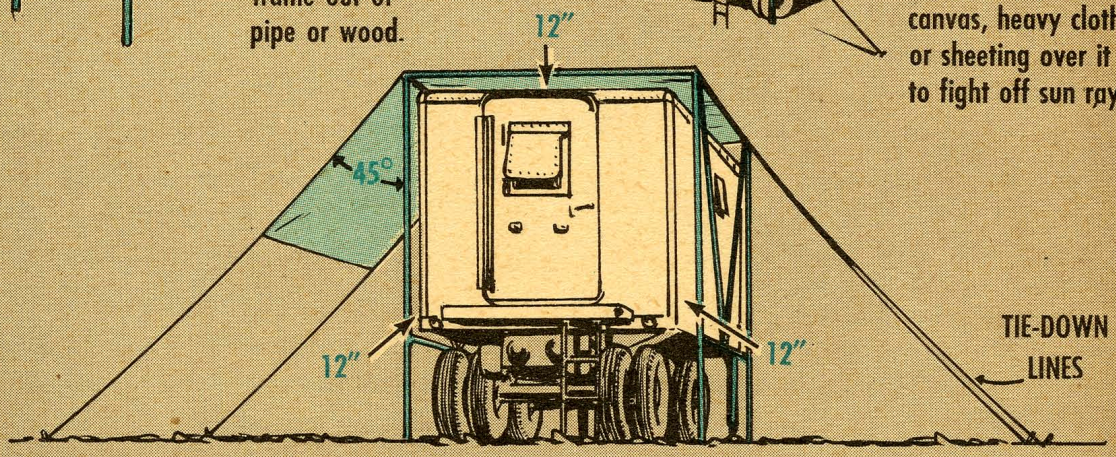
The vans have to be kept cool to protect equipment from heat in the meantime.



Rig up the frame out of pipe or wood.



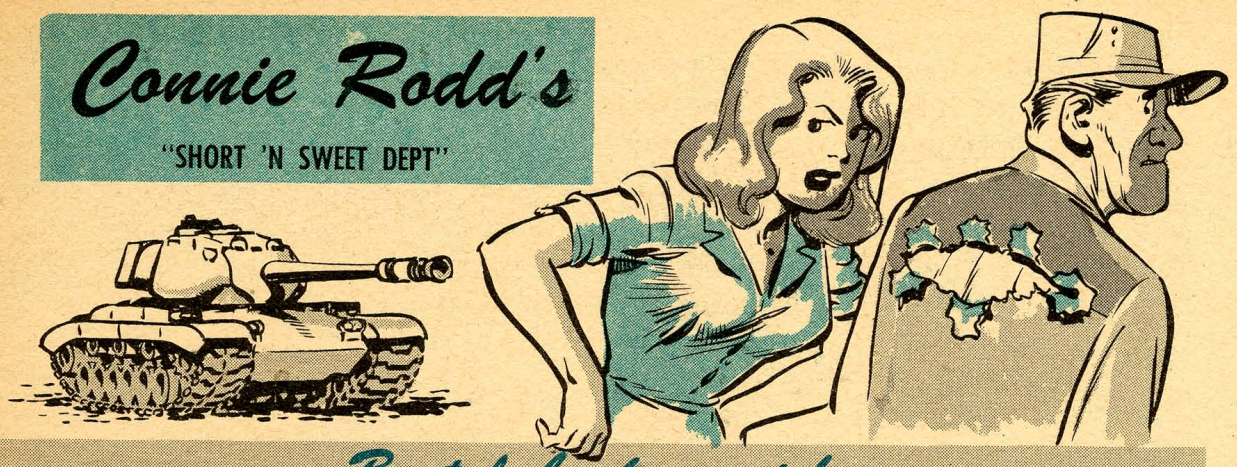
Then put a piece of canvas, heavy cloth, or sheeting over it to fight off sun rays.



Keep cover at least 12 inches away from the van for circulation.

Connie Rodd's

"SHORT 'N SWEET DEPT"

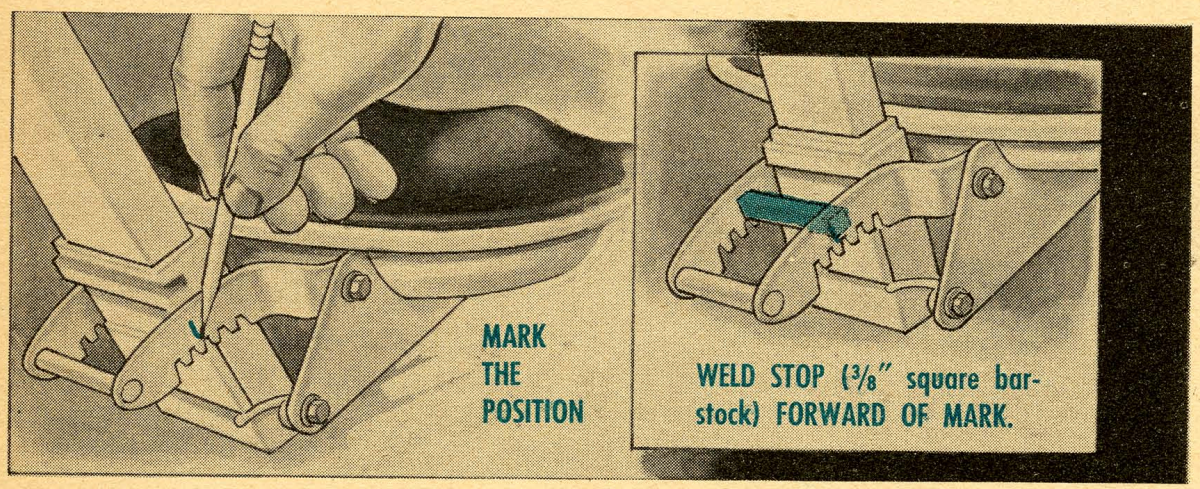


Brutal back scratcher

That back rest on the driver's seat of your M41 tank could be a bad 'un when you're leaned all the way back and the turret starts to traverse.

The turret basket's liable to grab the seat and give you a hearty jerk. If the seat's back rest touches the basket, make haste to your Ord support to see if they've gotten hold of those new adjusters (FSN 2510-039-8744) and have them install it for you.

If they can't get one, you can protect yourself and the seat by leaning all the way back till you touch the basket. Mark the position, and have Ordnance weld a stop of ⅜-in square bar-stock one position forward of your mark, like this:



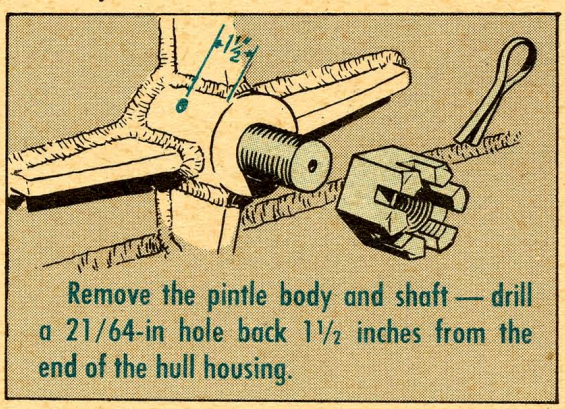
30-10=20

Check the circuit breaker you've got in the gun elevating circuit of your M41A1 tank. I'm pretty sure you'll find she has a 30-amp circuit breaker (Ord Stock No. G510-7088768) in her.

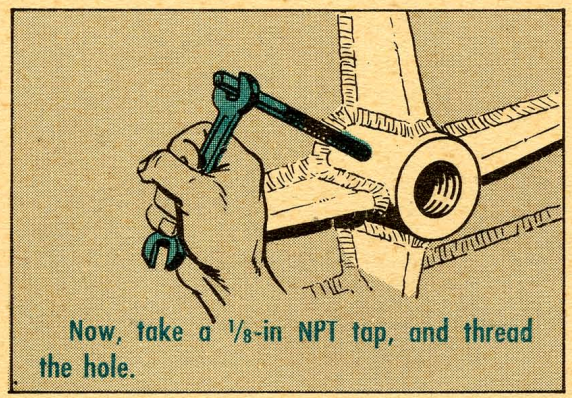
With a 30 there, there's a good chance you'll get some damage to the gun elevating motor when you reach the limits of your gun's elevation and depression. To get around this, better have Ordnance replace that 30-amp breaker with a 20-amp job (FSN 5925-295-5461; Ord Stock No. G102-0400208).

M75 pintle lubing

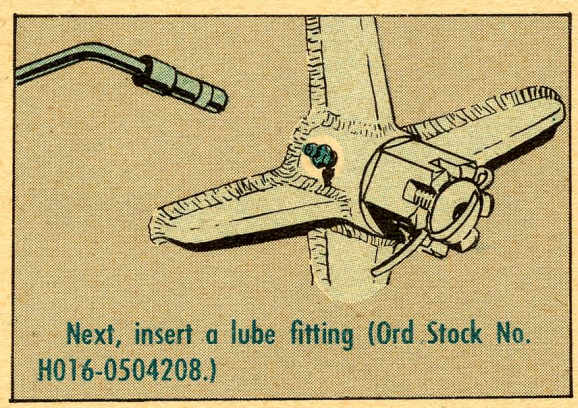
Here's a handy way to keep that M75 armored personnel carrier pintle shaft greased so it won't become a sorry victim of rust, and can be turned freely when you use it.



Remove the pintle body and shaft — drill a 21/64-in hole back 1½ inches from the end of the hull housing.



Now, take a ⅛-in NPT tap, and thread the hole.



Next, insert a lube fitting (Ord Stock No. H016-0504208.)

When you're through, fill it up with grease, and give 'er a couple more shots every *C*-service, just like the other pintle fittings. She'll slide like a hog on ice.

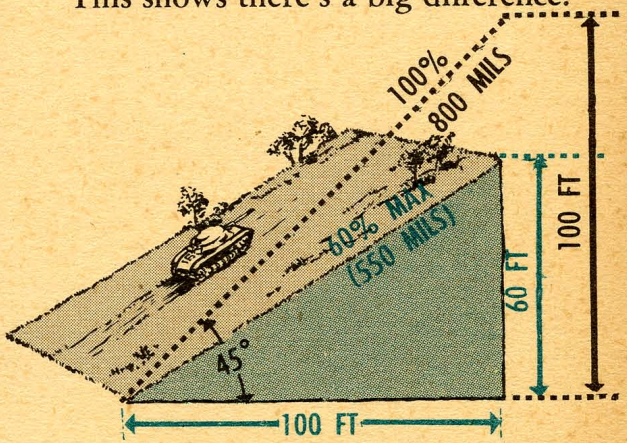
60 per cent's plenty

Your tank can climb a 60 per cent slope, neighbor, but that's all. If you try steeper grades, your engine will soon look like a Comanche camp after a visit by John Wayne.

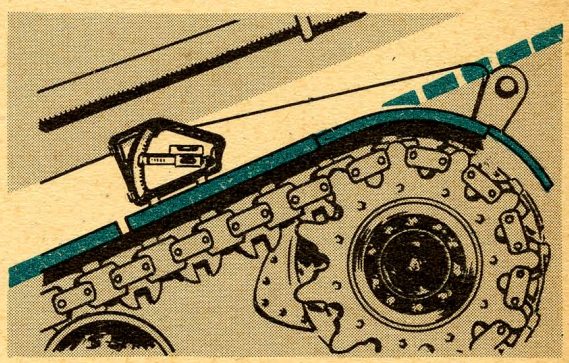
Reason is, after you pass 60 per cent, even with a full crankcase, the engine oil pick-up tube may start sucking air, not oil.

Many breakdowns occur because a lot of drivers don't know the difference between degrees and per cent of slopes.

This shows there's a big difference.

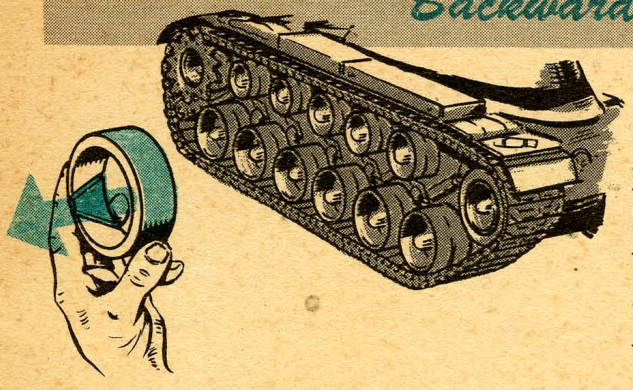


To find out if the slope you're climbing is safe, lay your gunner's quadrant on your tank fender or on a long flat board on the ground.



Check to see if your reading is under 550 mils—over this you're in danger ; under, you're OK.

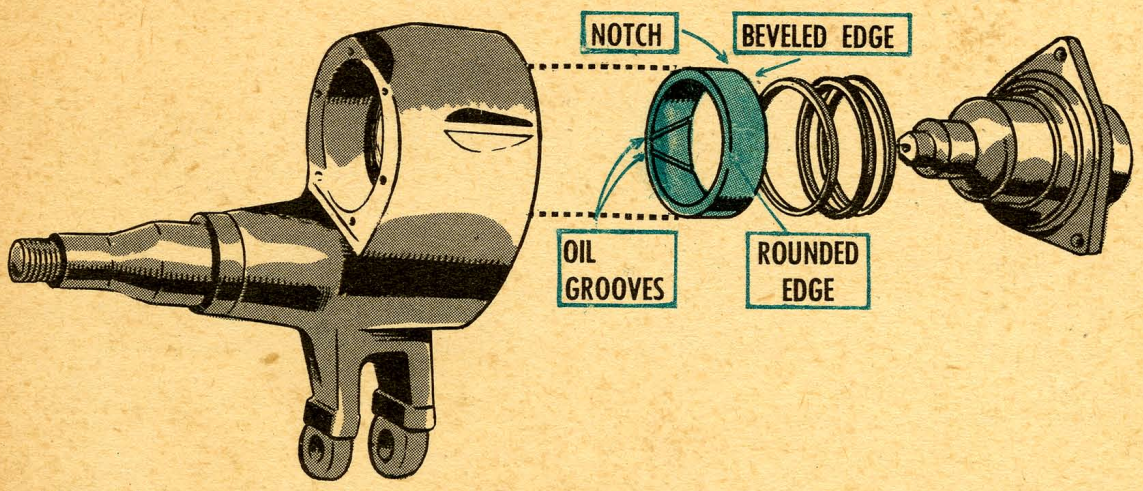
Backward bearings



The time may come when you'll have to replace the inner bearings (Ord Stock No. G254-8346090) in your M48-series tank's compensating-idler-wheel arms. When you do — careful, pal, because they're mighty easy to shove in backwards.

There are three things that'll clue you to proper positioning. First, one of the inside bore's edges is beveled, and the other is rounded. Second, there are two oil grooves inside the bearing that form a "V". And third, there's a notch on one of the outside edges of the bearing.

When you have the bearing shoved in properly, the beveled edge should be toward the hull, with the "V" pointing away from the hull.

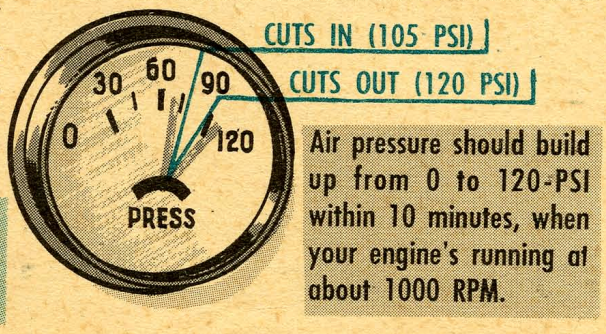


To make sure it's set just right, there's a little notch on the face of the arm assembly that matches up with the one on the bearing. Rotate the bearing till the notches are lined up to at least within ⅛ inch of each other.

Right cuts

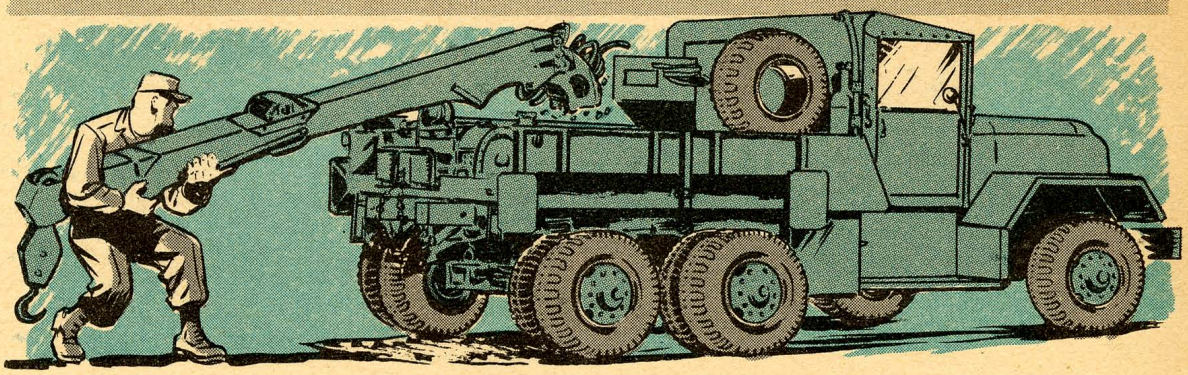
If you've been in doubt on the right cut-in pressure for the air compressor governor on your G744 5-ton trucks, here's the right dope —

That air compressor governor'll cut in at 105-PSI and will cut out at 120-PSI.



Air pressure should build up from 0 to 120-PSI within 10 minutes, when your engine's running at about 1000 RPM.

Rusty action



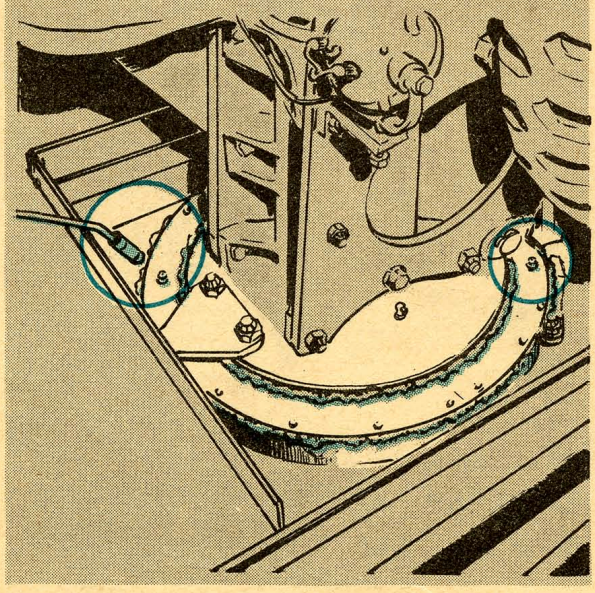
Mebbe you've got a 5-ton M62 wrecker or a 2½-ton M108 crane truck that's got a bellyfull of rust — right in the crane-boom-pivot-post housing.

If you're wonderin' how the rust got there in the first place, it's because the housing didn't have enough grease in it to keep water and moisture out. It must be kept full of GAA or the gears there have had it.

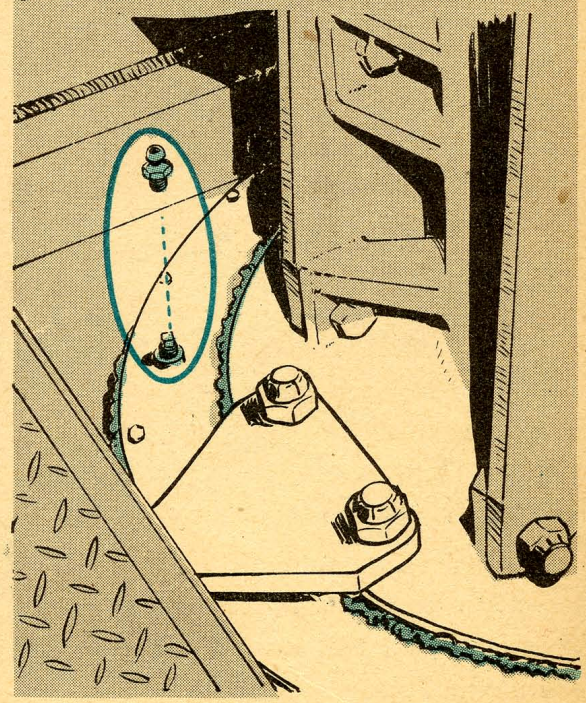
Here're a few pointers to keep ol' man rust from getting his big foot through the door:

1. If rust is already there, clean it out soonest. 2. Drain water and moisture out of the housing at least once a week and after all deep water fording operations by removin' the plug in the **underside of the unit.** To get all that trapped water out of her, give that pivot post a couple of whirls.

3. Remove the ¼-in pipe plugs on both sides of pivot-post shield and take a couple of ¼-in (NPT) lube fittings and screw them into the places where the pipe plugs were. Lube until grease shows all around both sides of pivot-post shield.



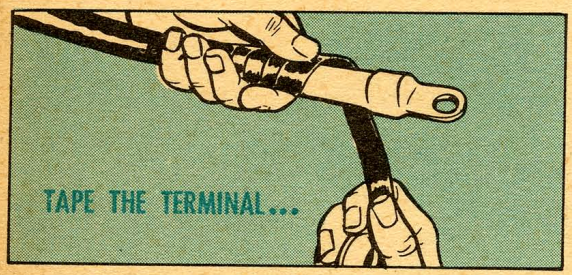
4. Replace the fittings with the plugs, and you've got it made.

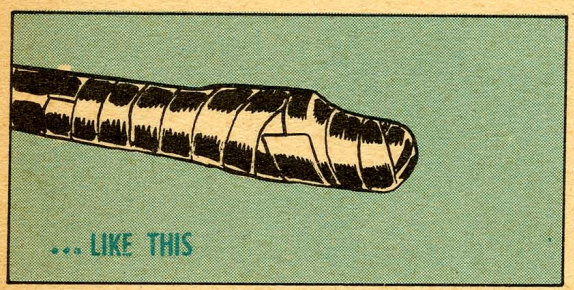


Positively dangerous

When Li'l Joe's positive cable is unhooked and your tank's master switch is ON, battery current makes that cable hotter than a short order skillet.

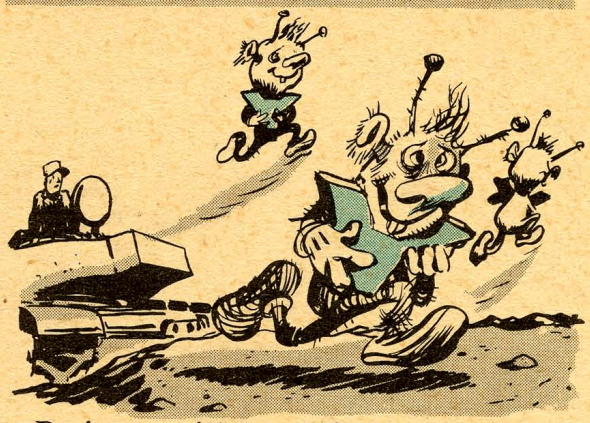
As it flops around, that cable can short against the frame or gas tank—sparks will fly and you may have a hot situation on your hands.





To save yourself from a fried hide ...every time you unhook the positive cable from Li'l Joe, tape that terminal —immediately.

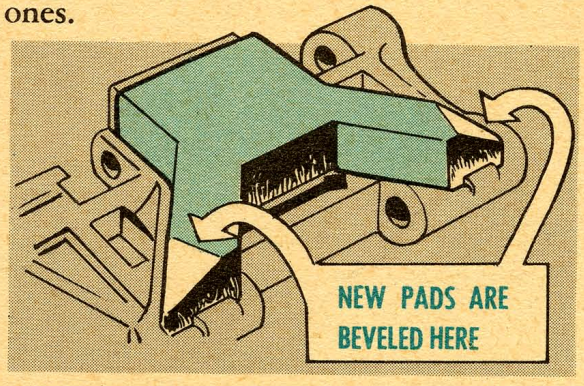
M41A1 grouser gremlins



Patience will pay off if you've been watching the track pads on your M41A1 tanks buckle up and fall off by the roadside. There are new pads on the way and they have a lot longer life built into 'em.

The new pads have the outside ends of the chevron beveled to keep the corners from chunking out, and they're stuck tighter to the plates.

The expected life of the new pads depends upon the weather and type of ground you're wheeling over, but they'll last a lot longer than the old ones.

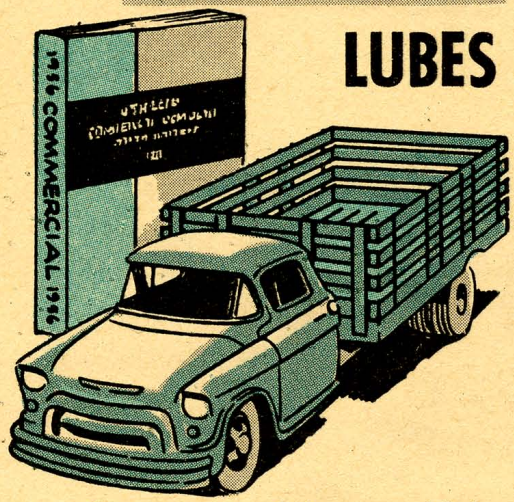


When you order the new pads use Ord Stock No. G251-7963720. You'll get 'em as soon as old stocks are used up.

Take a look at TB 9-1870-2/1 (14 Oct 55) when you get those new pads. It'll tell you how to break 'em in right.

Operation Big Switch –

MILITARY VS. COMMERCIAL LUBES



Got commercial-type vehicles in need of lubing, but can't figure out how to make the switch from the commercial lubes given in the manufacturer's manual to the standard military lubes? If so, this chart's for you. It lays out the ABC's of TB Ord 378 (17 Oct 51) which authorizes you to use military lubes in those civilian buggies.

Here's how it works: Let's say you're lubing a shock absorber. The commercial manual tells you to use some lube you've never heard of . . . so, all you gotta do is go down the chart and find shock absorbers. Right across from the name of the item is the military lube you're to use in shock absorbers.

This chart might be a handy addition to the pin-ups already in your grease pit. Just find some bare spot and put 'er up.

COMMERCIAL LUBRICANT	MILITARY EQUIVALENT
Engine Oils ML, MM, MS, DG or DS	Engine Oil, Heavy Duty (MIL-L-2104A)
Automatic Oil, Type A	Engine Oil, Light (MIL-L-2104A) .
Steering Gear Lubricant; Gear Oil; Straight Mineral Oil; ES Lubricant Oil, Special; Hypoid Lubricant	Lubricant, Gear, Universal (MIL-L-2105)
Wheel-Bearing Grease; Chassis Grease; Cup Grease	Grease, Automotive and Artillery (MIL-G-10924, Amendment 2 or 3)
	Grease, Automotive and Artillery (MIL-G-10924, Amendment 1, 2 or 3)
Water Pump Grease	Grease, Lubricating, Automotive, and Industrial Type A, Grade 4 (VV-G-632)
S-6 Shock Absorber Fluid; Vacuum Cylinder Oil	Hydraulic Oil, Preservative (MIL-O-6083A); **OR** Hydraulic Oil, Petroleum Base (MIL-O-5606)
Heavy Duty Fluid, SAE 70R1	Fluid, Hydraulic Brake (VV-F-451A)
Engine Oils; Special Fluids	Preservative Lubricant (MIL-L-3150)
S-6 Shock Absorber Fluid	Hydraulic Oil, Preservative (MIL-O-6083A); **OR** Hydraulic Oil, Petroleum Base (MIL-O-5606); Castor Oil, Technical: Heavy, Shock Absorber, JAN-F-461 (for Houdaille shocks only)
Graphite Grease	Aircraft and Instrument Grease (MIL-G-3278)

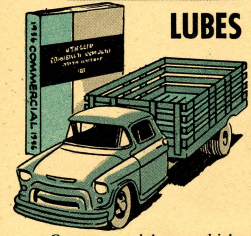
Points to Remember

1 Use the lube called for by your temperature range.

2 If your manufacturer's manual calls for SAE 20, use OE 10. If it calls for SAE 40, use OE 30.

Operation Big Switch –

MILITARY VS. COMMERCIAL LUBES



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Steering Gear Lubricant; Gear Oil; Straight Mineral Oil; ES Lubricant Oil, Special; Hypoid Lubricant	Lubricant, Gear, Universal (MIL-L-2105)
Wheel-Bearing Grease; Chassis Grease; Cup Grease	Grease, Automotive and Artillery (MIL-G-10924, Amendment 2 or 3)
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Points to Remember

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MILITARY SYMBOL	PARTS NORMALLY USING THESE LUBES	CLIMATIC TEMPERATURE RANGE
OE OES	Engines; power steering units; reduction units	OE 30—+32°F and above; OE 10—from −10°F to +40°F; OES—0°F to −65°F
OE 10	Automatic transmissions	All temperatures, but—(See Points to Remember)
GO GOS	Front and rear axles; winches; overdrives; mechanical transmissions; transfer cases; steering gear units	GO 90—above +32°F; GO 75—from +40°F to −10°F; GOS—from 0°F to −65°F
GAA (Amendment 2 or 3)	Wheel bearings; universal joints	All temperatures
GAA (Amendment 1, 2 or 3)	Gun-type fittings; all grease-type lubrication points on chassis	All temperatures
WT	Water pumps	All temperatures
OHC; OR OHA	Hydrovac units (vacuum portions)	All temperatures
HB HBA	Hydraulic brake master cylinder	HB—0°F and above; HBA—below 0°F
PL (Med) **PL** (Sp)	Oil can points	PL (Med)—+32°F and above; PL (Sp)—below +32°F
OHC OR OHA; SAH (for Houdaille) shocks only)	Shock Absorbers	All temperatures
GL	Speedometer cables	All temperatures

3 Under severe operating conditions or if you're in temperatures consistently above +90°F, where SAE 40, 50 or 70 is called for by your manufacturer's manual, use OE 50.

4 Change engine oil and engine oil filter every **D** service (6,000 miles).

5 When it comes to wheel bearings and universal joints, use only **GAA Amendment 2 or 3.** (SB 725-9150-1 gives the details on this.)

6 Use OE 10 in automatic transmissions unless the manufacturer's manual specifically calls for a special fluid. If it does, buy it on local purchase under SR 715-110-50.

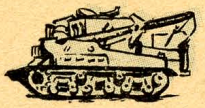
MILITARY SYMBOL	PARTS NORMALLY USING THESE LUBES	CLIMATIC TEMPERATURE RANGE
OE **OES**	Engines; power steering units; reduction units	OE 30—+32°F and above; OE 10—from −10°F to +40°F; OES—0°F to −65°F
OE 10	Automatic transmissions	All temperatures, but— (See Points to Remember)
GO **GOS**	Front and rear axles; winches; overdrives; mechanical transmissions; transfer cases; steering gear units	GO 90—above +32°F; GO 75—from +40°F to −10°F; GOS—from 0°F to - 65°F
GAA (Amendment 2 or 3)	Wheel bearings; universal joints	All temperatures
GAA (Amendment 1, 2 or 3)	Gun-type fittings; all grease-type lubrication points on chassis	All temperatures
WP	Water pumps	All temperatures
OHC; **OR** **OHA**	Hydrovac units (vacuum portions)	All temperatures
HB **HBA**	Hydraulic brake master cylinder	HB—0°F and above; HBA—below 0°F
PL (Med) **PL** (Sp)	Oil can points	PL (Med)—+32°F and above; PL (Sp)—below +32°F
OHC; OR **OHA; SAH** (for Houdaille) shocks only)	Shock Absorbers	All temperatures
GL	Speedometer cables	All temperatures

3 Under severe operating conditions or if you're in temperatures consistently above +90°F, where SAE 40, 50 or 70 is called for by your manufacturer's manual, use OE 50.

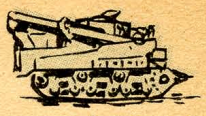
4 Change engine oil and engine oil filter every **D** service (6,000 miles).

5 When it comes to wheel bearings and universal joints, use only **GAA Amendment 2 or 3.** (SB 725-9150-1 gives the details on this.)

6 Use OE 10 in automatic transmissions unless the manufacturer's manual specifically calls for a special fluid. If it does, buy it on local purchase under SR 715-110-50.



Tame That Torsion

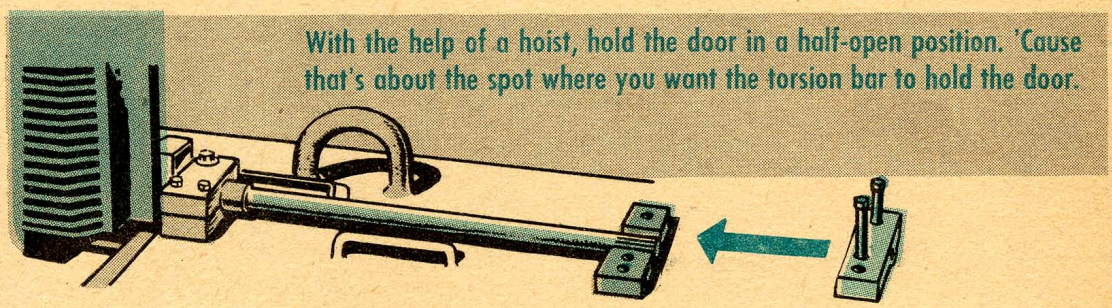


With a properly-installed torsion bar on that M74 tank recovery vehicle, the engine compartment iron door rises to your tender touch as smooth as a G-note.

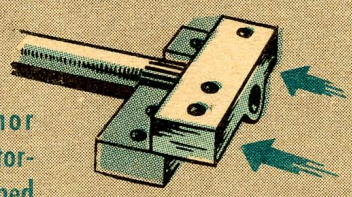
That is, if the bar is put in right.

Let's take a quickie check on how to slip those muscle-saving bars on right.

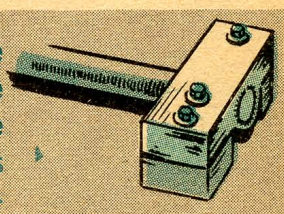
We'll say the torsion bar is already in place, but the rear anchor bracket's not.



With the help of a hoist, hold the door in a half-open position. 'Cause that's about the spot where you want the torsion bar to hold the door.



Slide the anchor bracket onto the torsion bar until it's lined up with the hull mounting pad.



Tighten its three cap-screws so that the bracket grips the ridged (serrated) ends of the torsion bar. Follow this up by tightening the three cap-screws on both the forward and center bearing blocks.

The spring steel of the torsion bar—as it is twisted—will always bring the door back to that half-open position. Sort of like a rubber ball that keeps tryin' to bounce back to the surface of the water when you hold it under.

Now if you've a vehicle that's fouled up because somebody else has completely bolted down the rear bracket, and the doors don't swing up . . . then the torsion bar isn't torsioning when it should. It's been assembled wrong, so adjust, men, adjust!

Open the door so there's no tension on the bar, and hold it there with the help of a hoist. Remove the three screws on the rear anchor bracket and slide the bracket off the torsion bar.

Now put the door at the half open position . . . slide the anchor bracket back onto the torsion bar . . . and install the three cap screws.

This'll correct the improper tension on the bar. And, of course, tighten those cap-screws good and tight. Now you're ready for action.

Unless you're a junior Superman, these bars'll give you a thousand-dollar lift every time. One thing to keep in mind—never remove the bracket when there's tension on that torsion bar. It'll kick like a mule if you do.

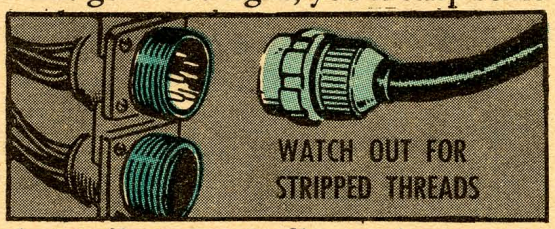
Please Squeeze With Ease

Focus your eyeballs this-away for 200 seconds and we'll cover torque on Scintilla-type connectors. Don't let the fancy words discourage you.

That's just a varmint way of saying we'll see how tight those waterproof electrical connections should be throughout your truck or tank. And there are lots of 'em.

Like f'rinstance on generators, regulators, junction boxes, control boxes, starters and even magnetos.

If you put a strong arm to the connection and get it too tight, you'll strip some threads. They're soft metal and don't like rough handling.

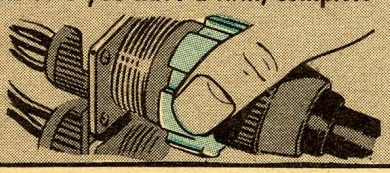


On the other hand, if you don't get 'em tight enough they'll work loose. So treat them firm but gentle.

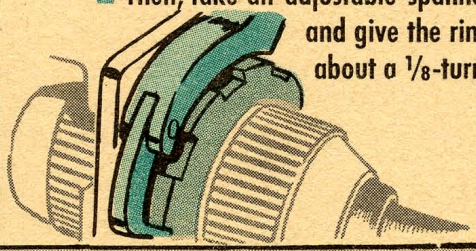
Of course, you'll want to make sure there's no oil, grease or dirt on the connector, sleeve or tightening ring. That makes for a slippery seat or ground-up threads.

Also, if you get a crossed thread it'll prevent you from getting them half-way tight again.

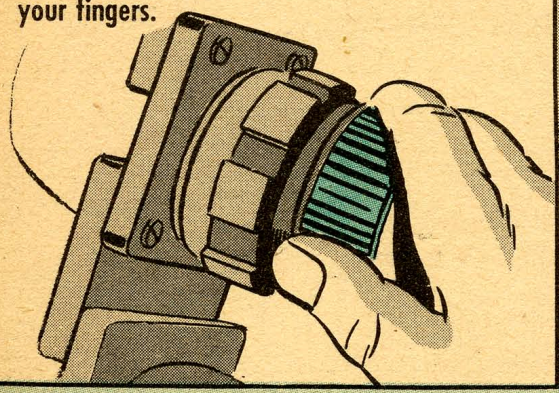
1 So wiggle the assembly a little as you screw it on to make sure you have a firm, complete connection.



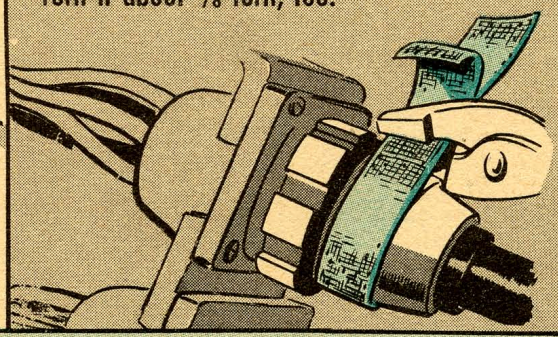
2 Then, take an adjustable spanner and give the ring about a 1/8-turn.

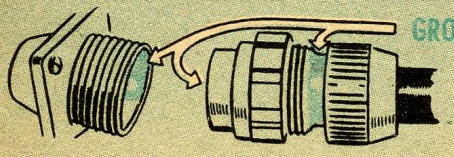


3 Once you're satisfied that the connector and its ring have passed inspection, snug the cable-connecting sleeve up as tight as possible with your fingers.



4 Then tighten it up with a strap wrench, or an old piece of web belt and a pair of pliers... so you won't chew up the soft metal sleeve. Turn it about 1/8-turn, too.





That's enough. It'll dent the rubber grommets just enough to provide a water-tight connection—which is what you want.

Six Don't Make a Dozen

Seems as how those 12-16 volt blackout-driving lights can't be found around anymore. So, if you're cruising around in a vehicle with a 12-volt electrical system, catch this change in lighting arrangements.

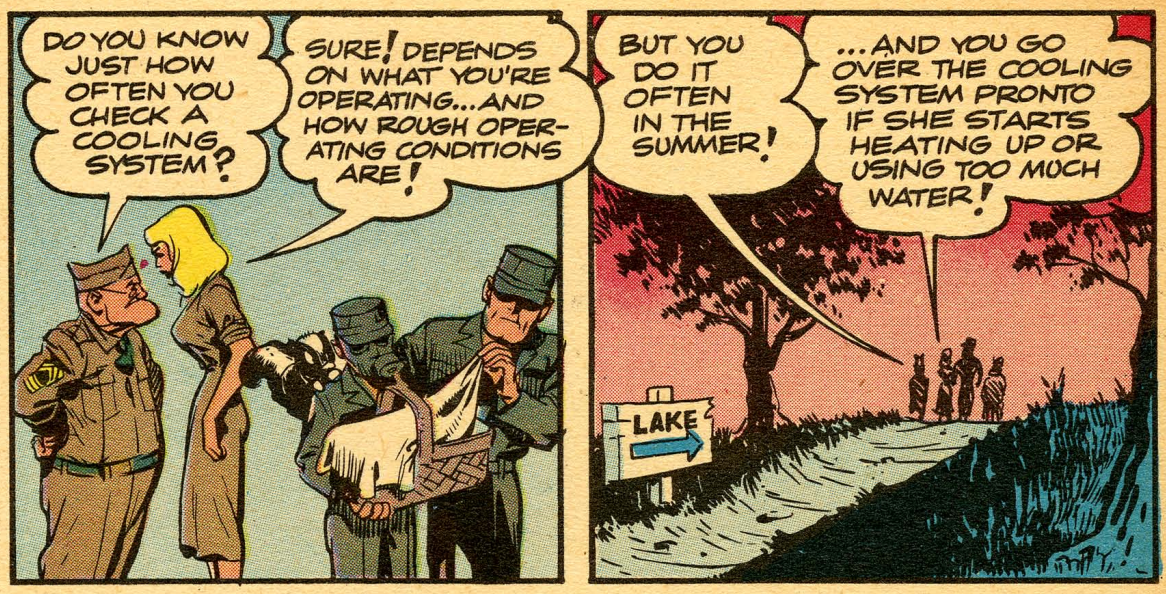
Unless you think your vehicle can operate blind-as-a-bat at blackout time, hitch yourself onto a 6-volt blackout-driving light (FSN 6220-695-1032). This light is replacing the 12-16 volt blackout-driving lights (Ord Stock Nos. H104-0454317 and H004-0573181).

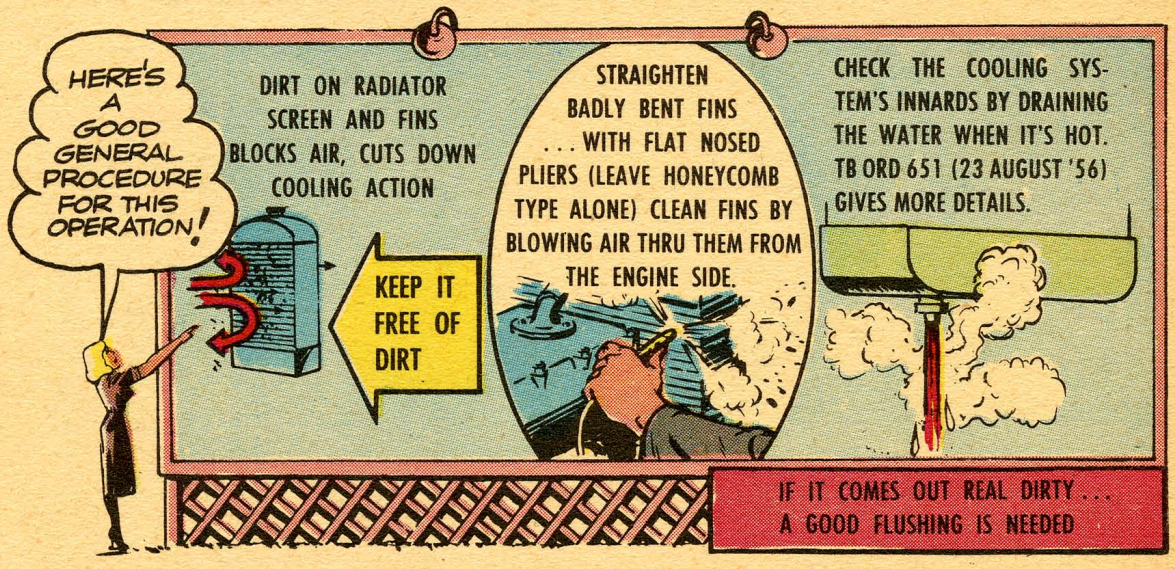
Careful now . . . since this light works on only **half** a dozen volts, stickin' a 6-volt bulb into a 12-volt electrical system means PING—a black eye for your vehicle. The higher-voltage system burns it right out.

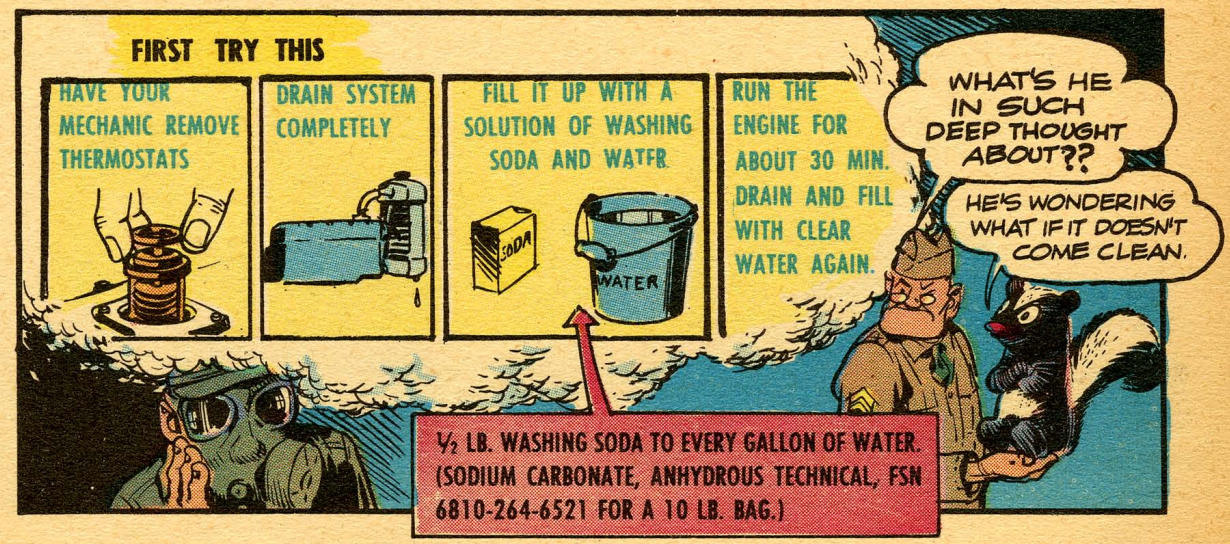
So, don't forget to wrap your fingers around a resistor when you're pickin' up that six-volter. And since the resistors for those 12-volt system vehicles aren't all the same, watch how the stock numbers go for each group of vehicles:

	VEHICLES:	RESISTOR:
	G102 half-tracks	FSN 5905-529-6999
	G162 13-ton high-speed tractor	
	G184 38-ton high-speed tractor	
	G136 M8 armored car	FSN 5905-528-4058
	G176 M20 armored car	
	G179 cargo and amphibian carriers	
	G150 18-ton high-speed tractor	FSN 5905-350-6247
	G160 40-ton tank recovery truck-trailer	Resistor is integral part of authorized Terminal Board, FSN 5940-350-0366

JOE'S DOPE
WHEN IT'S HOT .. KEEP YOUR COOLER COOLING
...MAKES NO DIFFERENCE WHETHER YOU'RE OPERATING AN ENGINEER DOZER....
...OR ORDNANCE TRUCK...
...OR QUARTER-MASTER FORKLIFT!
...OR A CHEMICAL CORPS DECON...
WHEN YOU'RE USING AN ENGINE WITH A LIQUID COOLING SYSTEM, SUMMER MEANS EXTRA CARE AND ATTENTION... WHETHER YOU'RE MOVING DOWN THE ROAD OR SITTING STILL LIKE A COMPRESSOR OR GENERATOR.
BUT THAT'S NOT THE WHOLE STORY!


DO YOU KNOW JUST HOW OFTEN YOU CHECK A COOLING SYSTEM?
SURE! DEPENDS ON WHAT YOU'RE OPERATING...AND HOW ROUGH OPERATING CONDITIONS ARE!
BUT YOU DO IT OFTEN IN THE SUMMER!
...AND YOU GO OVER THE COOLING SYSTEM PRONTO IF SHE STARTS HEATING UP OR USING TOO MUCH WATER!
LAKE

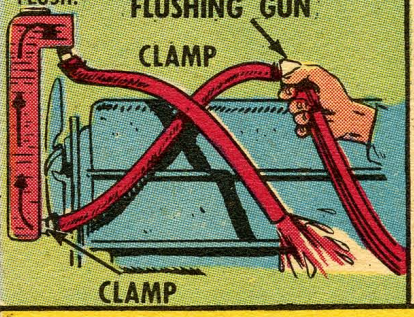

HERE'S A GOOD GENERAL PROCEDURE FOR THIS OPERATION!
DIRT ON RADIATOR SCREEN AND FINS BLOCKS AIR, CUTS DOWN COOLING ACTION
KEEP IT FREE OF DIRT
STRAIGHTEN BADLY BENT FINS . . . WITH FLAT NOSED PLIERS (LEAVE HONEYCOMB TYPE ALONE) CLEAN FINS BY BLOWING AIR THRU THEM FROM THE ENGINE SIDE.
CHECK THE COOLING SYSTEM'S INNARDS BY DRAINING THE WATER WHEN IT'S HOT. TB ORD 651 (23 AUGUST '56) GIVES MORE DETAILS.
IF IT COMES OUT REAL DIRTY . . . A GOOD FLUSHING IS NEEDED


FIRST TRY THIS
HAVE YOUR MECHANIC REMOVE THERMOSTATS
DRAIN SYSTEM COMPLETELY
FILL IT UP WITH A SOLUTION OF WASHING SODA AND WATER
SODA
WATER
RUN THE ENGINE FOR ABOUT 30 MIN. DRAIN AND FILL WITH CLEAR WATER AGAIN.
WHAT'S HE IN SUCH DEEP THOUGHT ABOUT??
HE'S WONDERING WHAT IF IT DOESN'T COME CLEAN.
½ LB. WASHING SODA TO EVERY GALLON OF WATER. (SODIUM CARBONATE, ANHYDROUS TECHNICAL, FSN 6810-264-6521 FOR A 10 LB. BAG.)

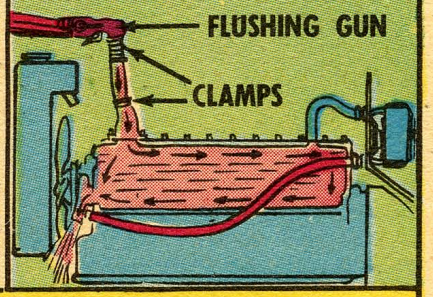
IF THAT DOESN'T DO IT TRY THIS

IF THERE'S COMPRESSED AIR AND A FLUSHING GUN NOZZLE HANDY USE 'EM THIS WAY...

ATTACH FLUSHING GUN TO RADIATOR'S LOWER WATER OUTLET AND BLOW OUT WITH WATER AND COMPRESSED AIR... THIS'LL GIVE YOU A GOOD REVERSE FLUSH.



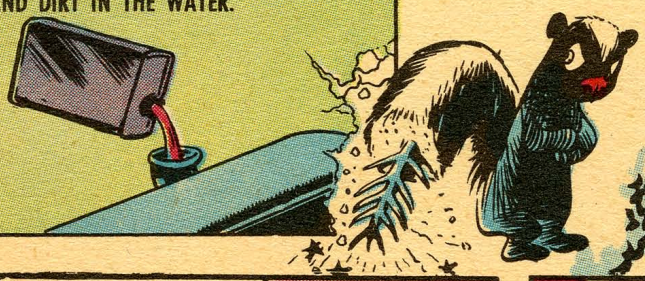
AND ON THE ENGINE—ATTACH THE FLUSHING GUN TO THE UPPER HOSE CONNECTION... LET THE WATER AND AIR OUT THROUGH THE LOWER OPENING.

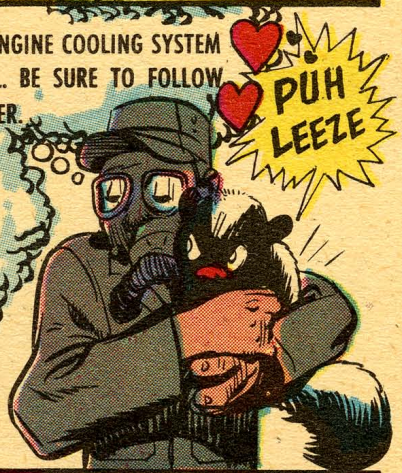


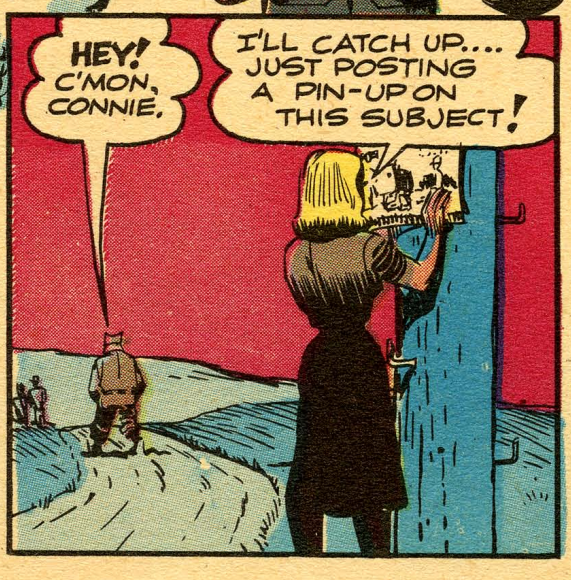
REPEAT UNTIL WATER COMES OUT CLEAN

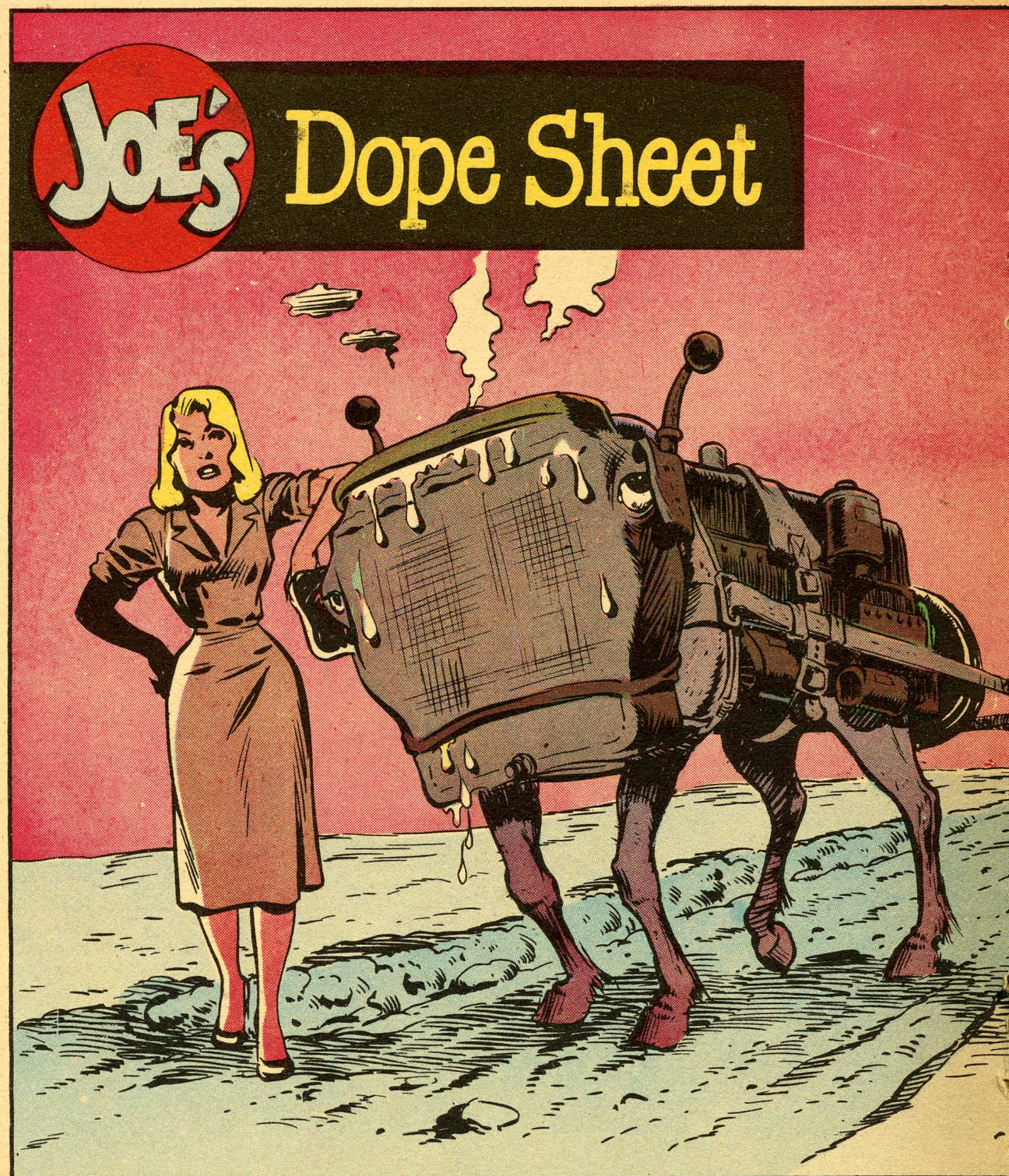
...OR YOU CAN USE SOME STUFF THAT'S MADE FOR REAL DIRTY SYSTEMS. (ENGINE COOLING SYSTEM COMPOUND, FSN 6850-272-9327.) CAREFUL WITH IT THO... IT'S POWERFUL. BE SURE TO FOLLOW DIRECTIONS ON THE CONTAINER.

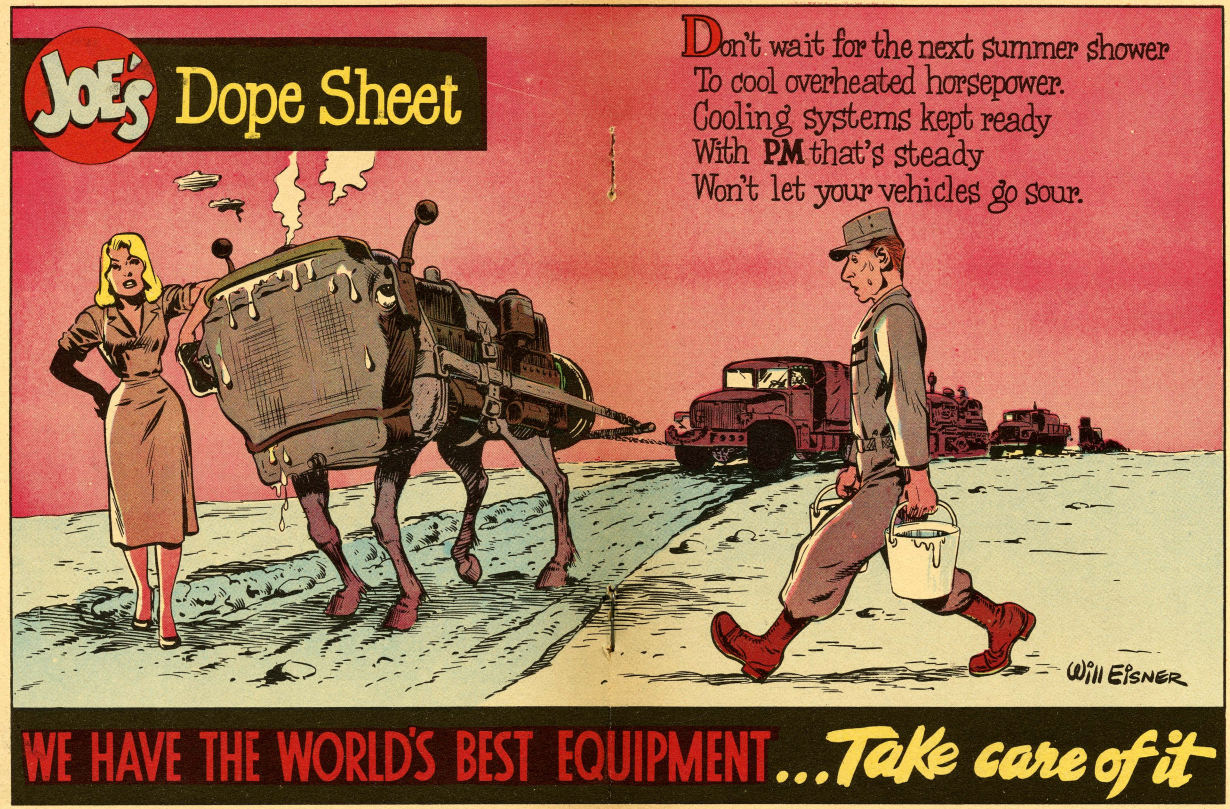
USE IT ONLY WHEN A RADIATOR'S CLOGGED OR THERE'S A LOT OF RUST AND DIRT IN THE WATER.








JOE'S
Dope Sheet
WE HAVE THE WORLD'S BEST EQ


JOE'S Dope Sheet
Don't wait for the next summer shower
To cool overheated horsepower.
Cooling systems kept ready
With PM that's steady
Won't let your vehicles go sour.
WILL EISNER
WE HAVE THE WORLD'S BEST EQUIPMENT...Take care of it

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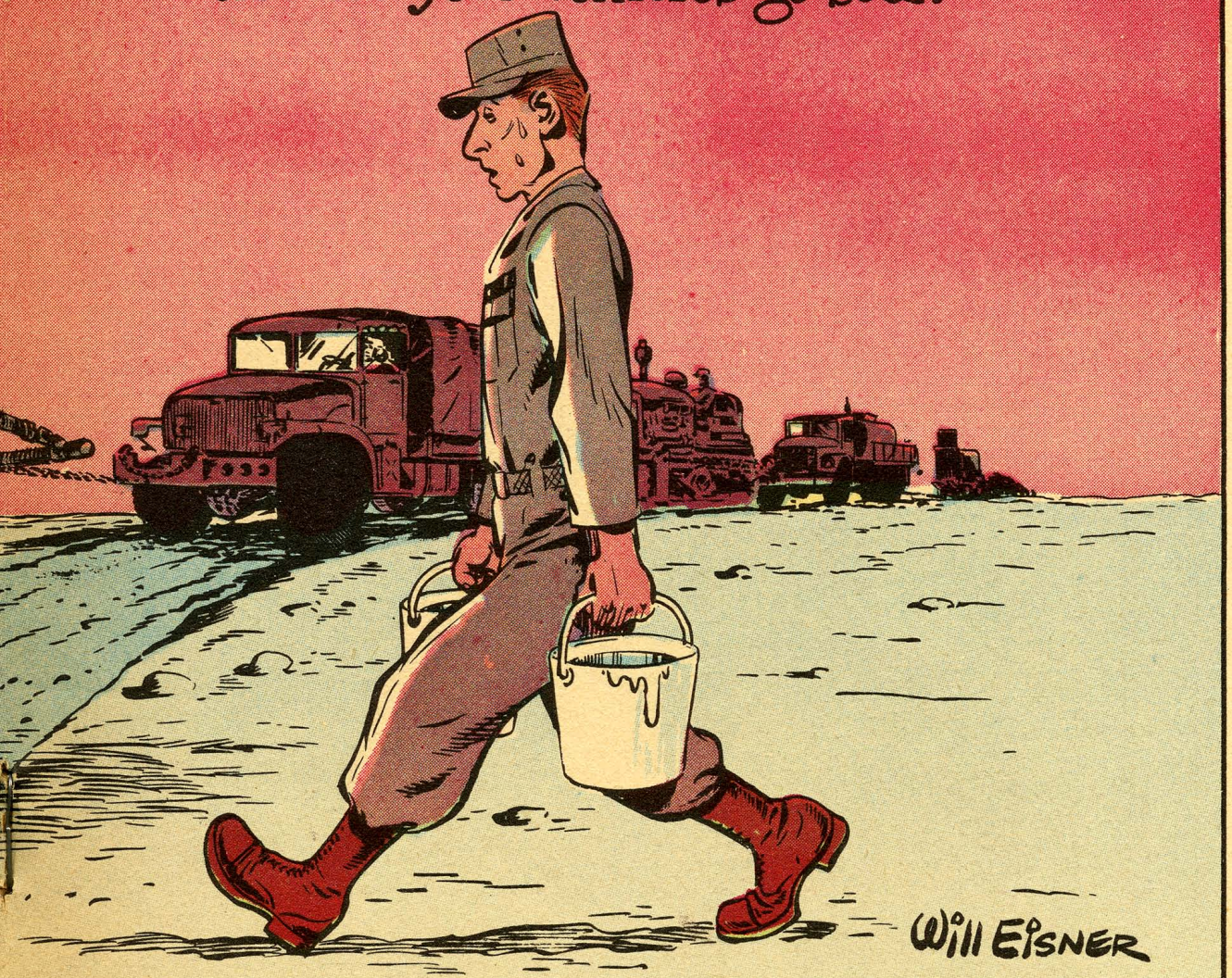
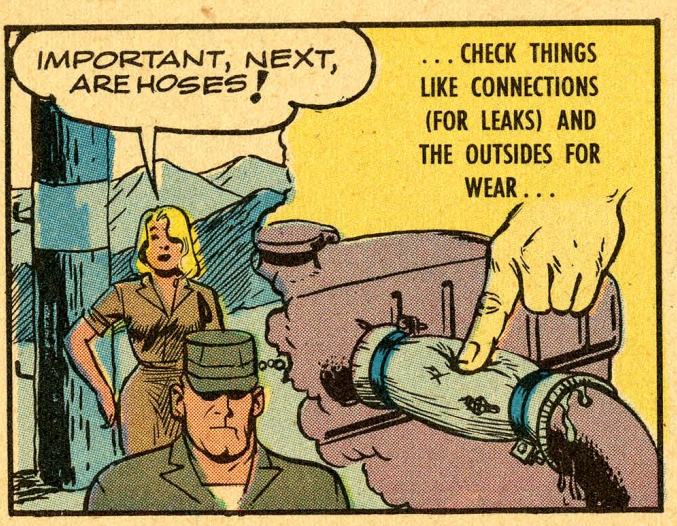
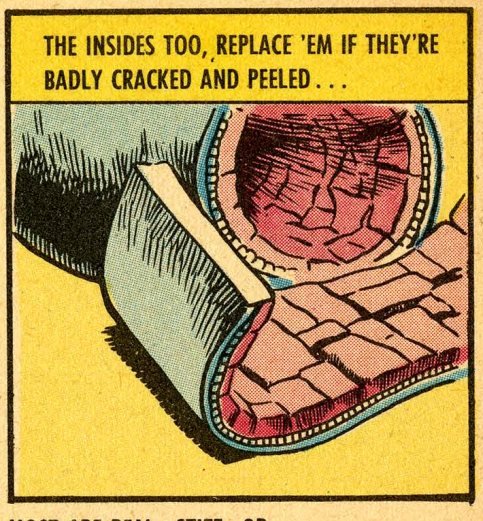
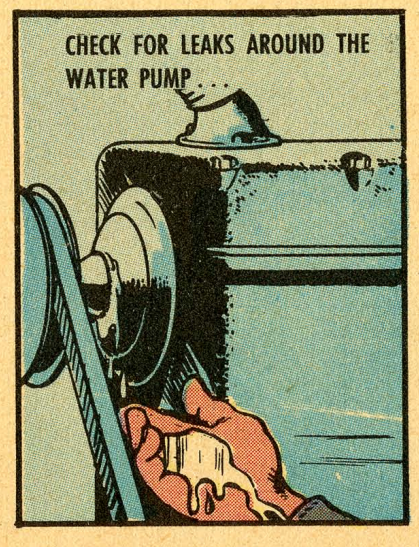


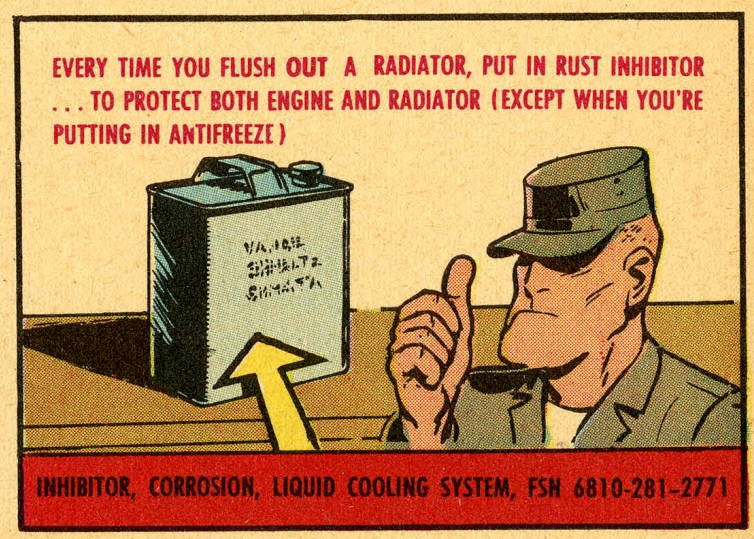
UIPMENT...Take care of it

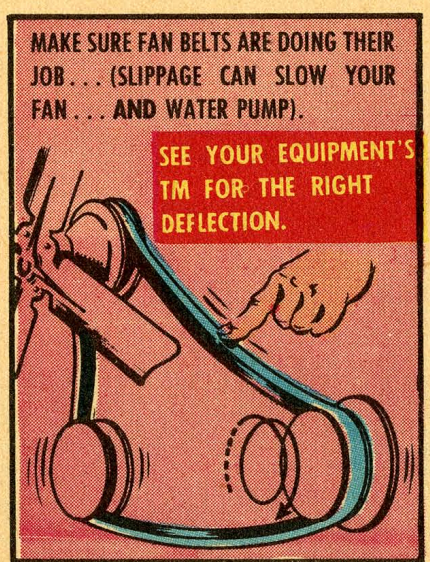


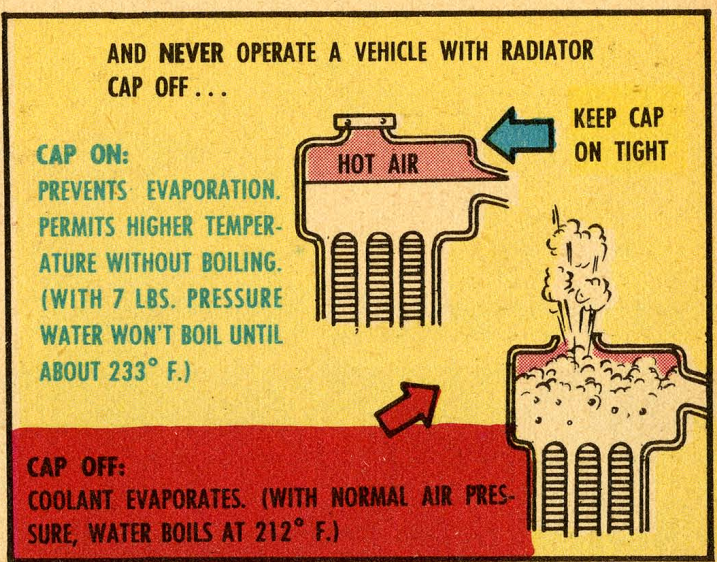


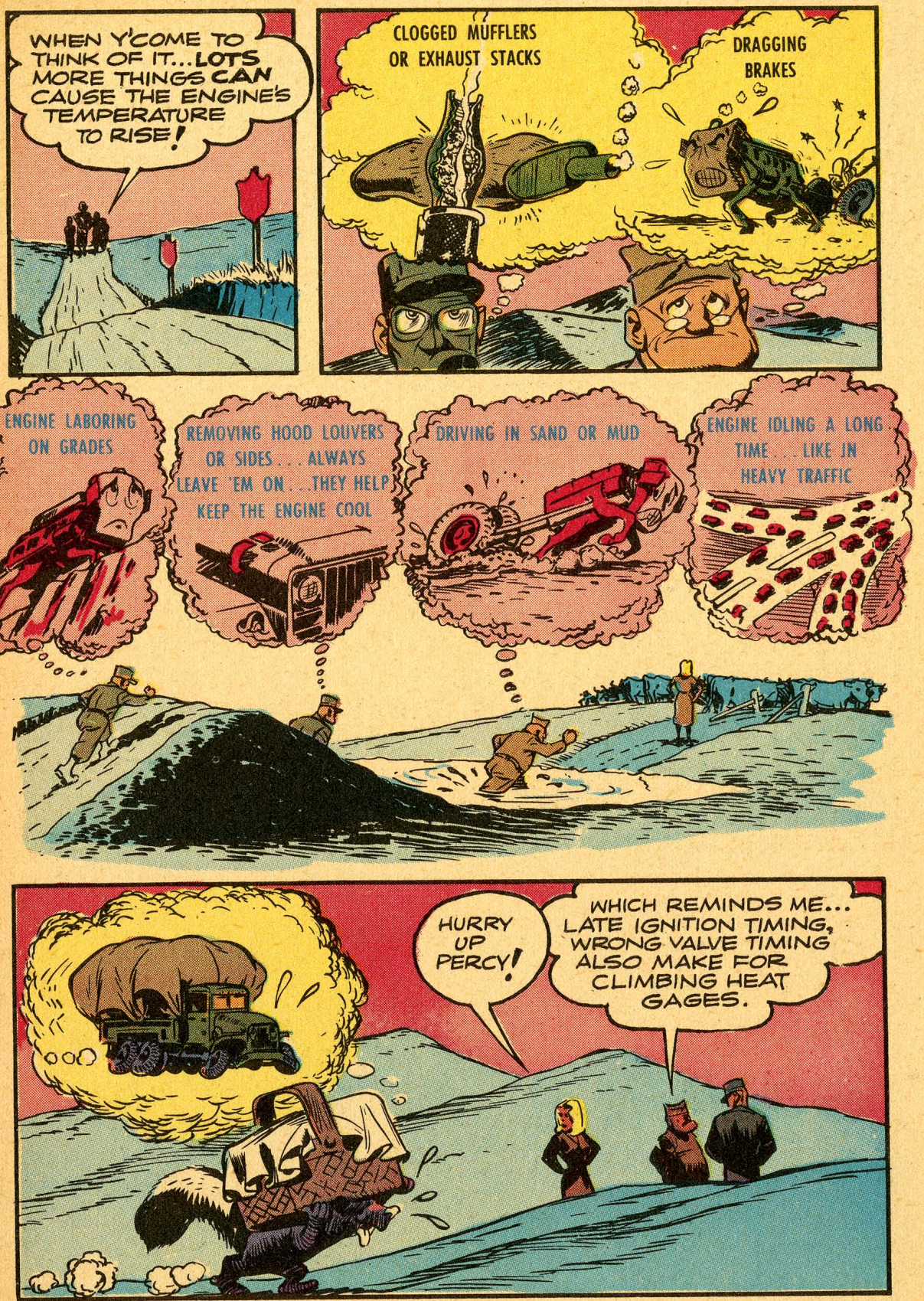
BE SURE THAT LOWER HOSE IS THE RIGHT KIND . . . MOST ARE REAL STIFF OR HAVE A REINFORCING SPRING (TO KEEP IT FROM COLLAPSING).



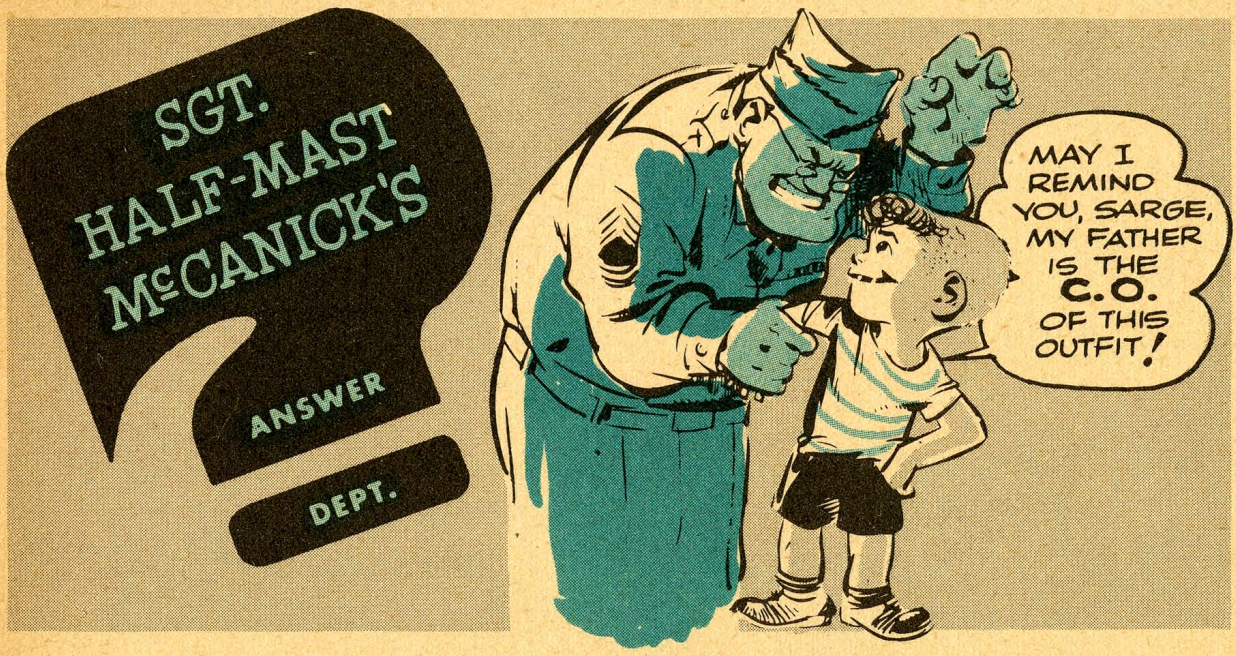







WHEN Y'COME TO THINK OF IT...LOTS MORE THINGS CAN CAUSE THE ENGINE'S TEMPERATURE TO RISE!
CLOGGED MUFFLERS OR EXHAUST STACKS
DRAGGING BRAKES
ENGINE LABORING ON GRADES
REMOVING HOOD LOUVERS OR SIDES... ALWAYS LEAVE 'EM ON...THEY HELP KEEP THE ENGINE COOL
DRIVING IN SAND OR MUD
ENGINE IDLING A LONG TIME... LIKE IN HEAVY TRAFFIC
HURRY UP PERCY!
WHICH REMINDS ME... LATE IGNITION TIMING, WRONG VALVE TIMING ALSO MAKE FOR CLIMBING HEAT GAGES.

YES...SIR, SUMMER MEANS EXTRA CARE.... I ALWAYS TELL MY BOYS THAT LOTS OF THINGS HAVE TO BE JUST RIGHT TO PREVENT OVERHEATING ENGINES.
I WONDER IF WE MENTIONED ABOUT TM 9-2858 (CHANGE 1 AND 2) GIVING ALL THE DOPE ON COOLING SYSTEM CLEANING YOU CAN GET.
HALP
?
THIS REMINDS ME...A GOOD COOLING SYSTEM CHECK-UP SHOULD BE FOLLOWED BY A FINAL LOOK-SEE FOR LOOSE BRACES AND MOUNTINGS!



NO LOCK-SWITCH NEEDED

Dear Half-Mast,

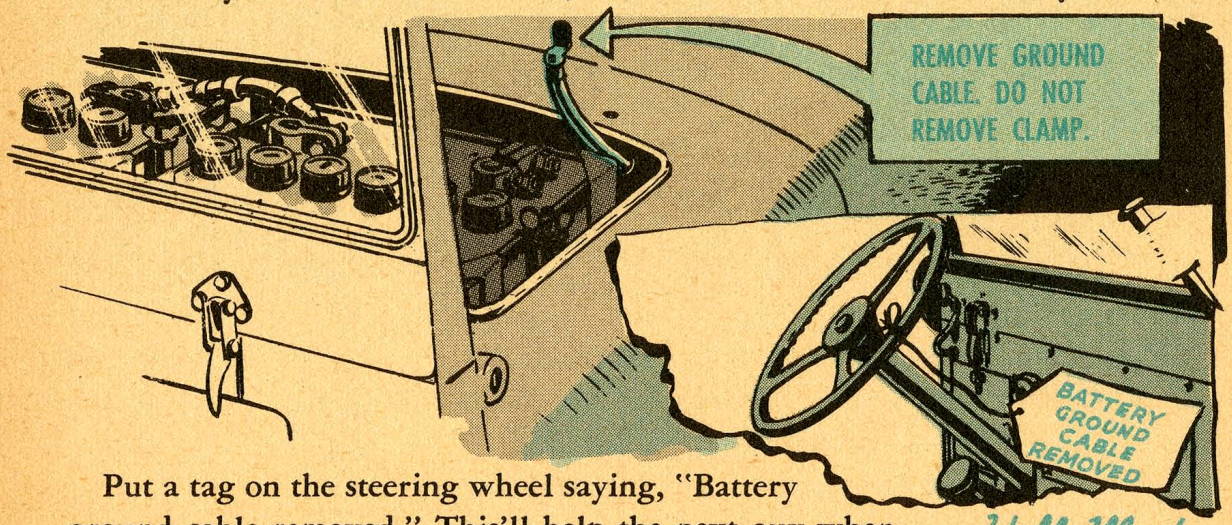
I'm in a National Guard outfit, and we have a problem. We park our Jeep on the armory floor. Between drill nights the general public uses the armory. So we find that kids turn on the ignition or the headlights, and run our battery down. Is there a lock-type ignition switch we could use?

MSgt G. R. T.

Dear Sergeant G. R. T.,

A lock won't stop the little angels from turning on your headlights.

Probably your best bet, if you can't rig some kind of a fenced-off parking area for the vehicle, is to take loose the battery ground terminal when you leave. This'll only take a minute or two, and leaves the entire electrical system dead.



Put a tag on the steering wheel saying, "Battery ground cable removed." This'll help the next guy when he goes to use the vehicle.

Half-Mast

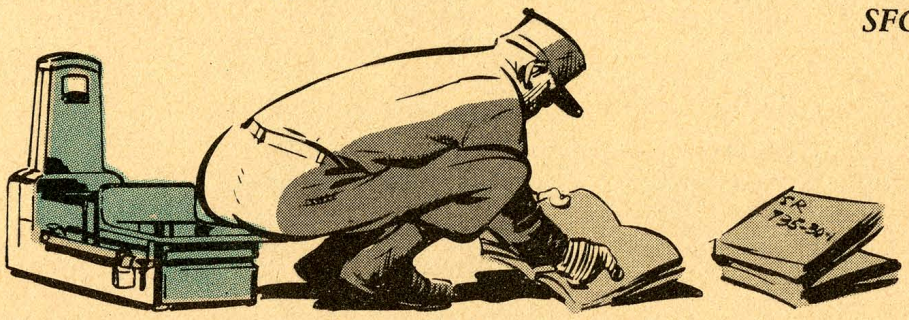
A WEIGHTY PROBLEM

Dear Half-Mast,

I would like some information on Change No. 2 to Tool Kit, Organizational Maintenance (2d echelon), No. 1, Common.

In this change there is listed Scales: weighing, commercial, counter mtg, 2,500 grams max cap graduated type, FSN 6670-164-0543. Just what is this used for?

SFC F. F. F.



Dear SFC F. F. F.,

You won't have much use for that scale in the 2nd echelon No. 1 Common Tool Kit. So if you want to know to turn it in, get hold of SR 735-30-1 (23 Aug 54).

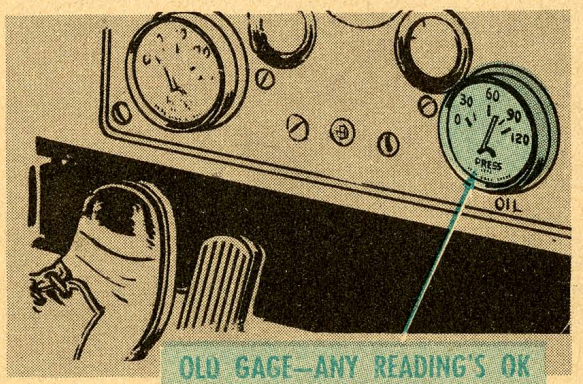
Half-Mast

INDICATIVE INDICATOR

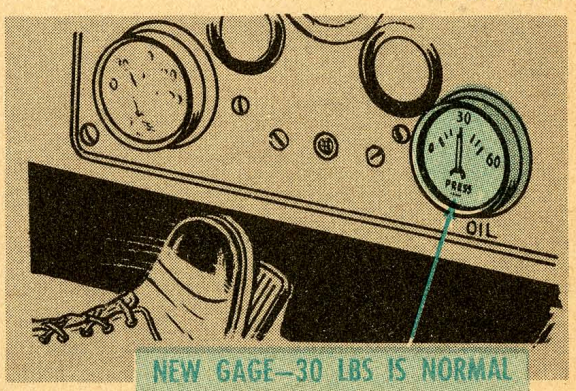
Dear Half-Mast,

What's what with the oil-pressure gages in these M38 Jeeps? I've worked with 'em for the last seven years, and I've never seen one that gives an exact reading.

Lt L.T.D.



OLD GAGE—ANY READING'S OK



NEW GAGE—30 LBS IS NORMAL

Dear Lt L. T. D.,

The oil-pressure gage which was put in originally is really only an oil-pressure indicator. In other words, as long as she reads **something** (doesn't matter what), the Jeep's oil pressure is OK.

Here's what to look for to make sure your Jeep's got pressure:

First, warm up the engine—the gage ought to show some pressure at idle. Now, press down on the gas pedal—the pressure ought to increase.

You've got MWO Ord G1-W63 (27 June 55) which tells you to replace gage G742-7728853 (the factory one) with a new gage G742-7954230, when the old gage doesn't indicate anything.

The original MWO told Ordnance to do the job. But Change 1 (13 Aug 56) throws the job into the laps of organizational maintenance.

Half-Mast

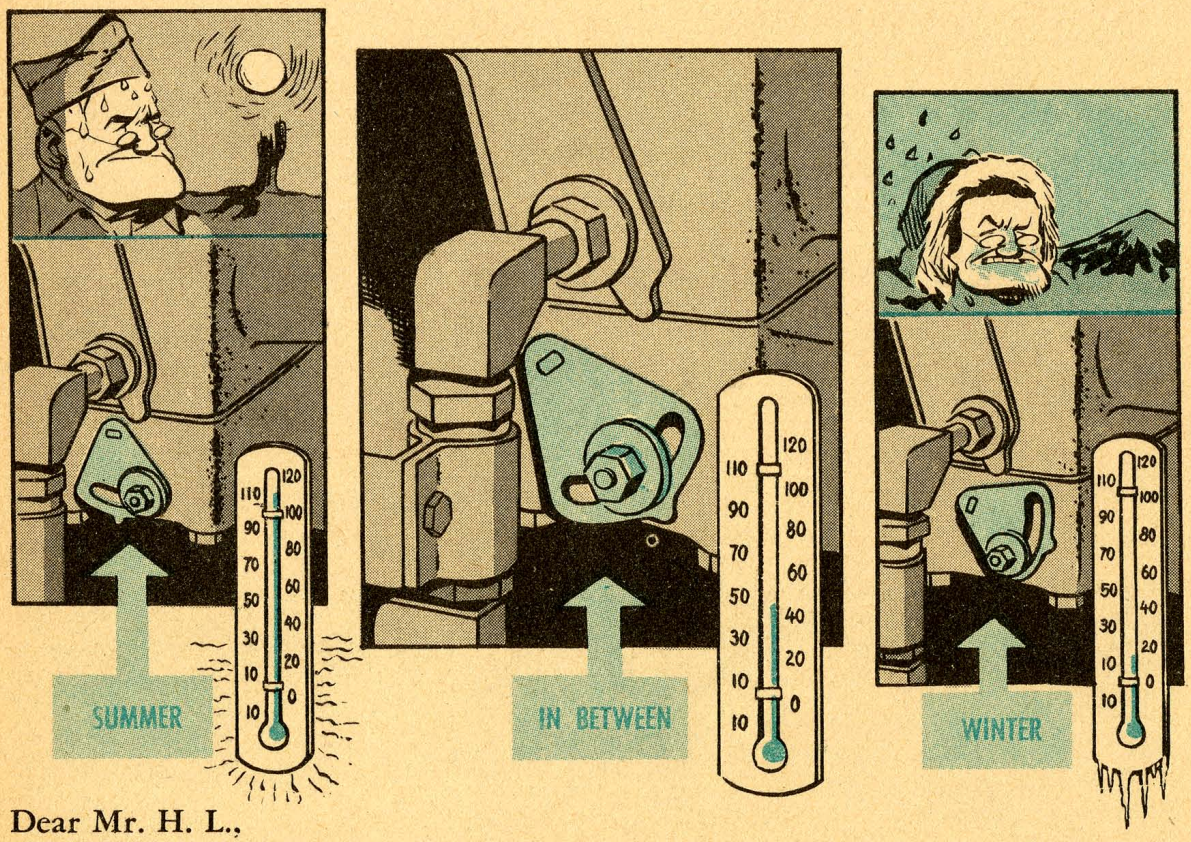
MIDRIFT

Dear Half-Mast,

For the manifold heat adjustment on our G741-series ¾-ton trucks, TM 9-8030 (May 55) says to set the heat control valve on SUMMER position if the ambient temperature's "consistently above 60 degrees F." And, you're to set it on WINTER position if the ambient temperature's "consistently below 30 degrees F."

Now, my question is how do you set that valve when the temperature in your area is consistently between 30 and 60 degrees—like it is here.

Mr. H. L.

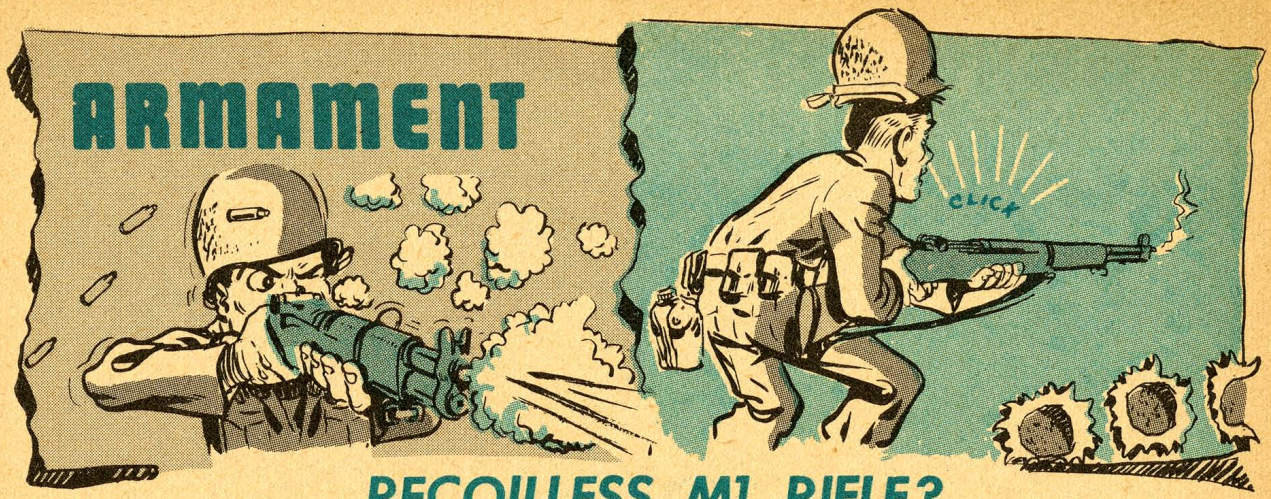


Dear Mr. H. L.,

Easy enough—just set that manifold heat control valve between the SUMMER and WINTER settings. This'll give you the right setting when you're in that intermediate temperature area... and be sure to tighten the stud nut after making an adjustment.

Half-Mast

ARMAMENT

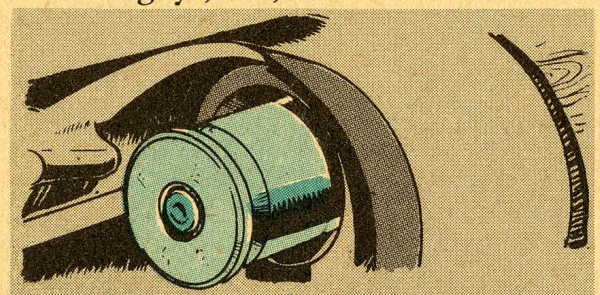


RECOILLESS M1 RIFLE?

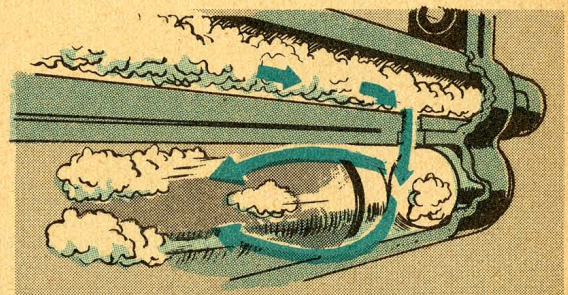
You should be able to fire every round from your M1 rifle as fast from the hip as from the shoulder, provided you hold 'er tight and brace 'er right at the hip.

That means ammo will feed into the chamber and spent cartridge cases will fly out of the receiver as regular as clock work—no matter how you hold the rifle.

Some guys, tho, fire one round and that's it.

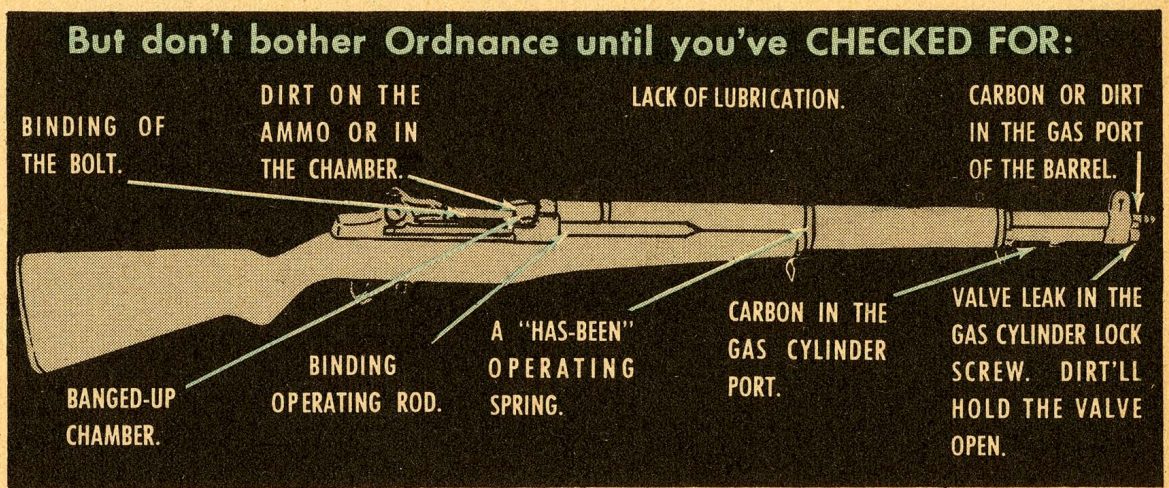


The spent cartridge case stays in the chamber. Could be the round was loaded with dirt . . . or maybe the operating rod is bent in and binds against the barrel.



But, more'n likely the gas cylinder is enlarged or the piston is worn and is allowing gas to sneak by.

It's usually a sign of cylinder or piston trouble when the rifle works like a charm when the stock is braced—like against your shoulder—but not when the stock has less support—like firing from the hip. Ordnance can spot that kind of trouble.



A TIP FOR WELDERS

Not only will you welders find those tips that are in your tool set, but if you'll keep going you can see what your Tool Set, Organizational Maintenance (2d echelon), Set No. 5 Oxy-Acetylene looks like. You know it's your Section 6 of your Ord 6 SNL J-7.

You'll see what you're supposed to have, and how the tools you have match up with the stock numbers and pictures.

Maybe you've got some extra tools. Could be they belong in your MOS Welder's Tool Set (Ord Stock No. 41-T-3554-975), which is Section 6 of your Ord 6 SNL J-10. (Remember there's a Change 1 to this section). Just so you'll know which tool belongs in which set, here are both of them.

TOOL SET, organizational maintenance (2nd echelon), Set No. 5

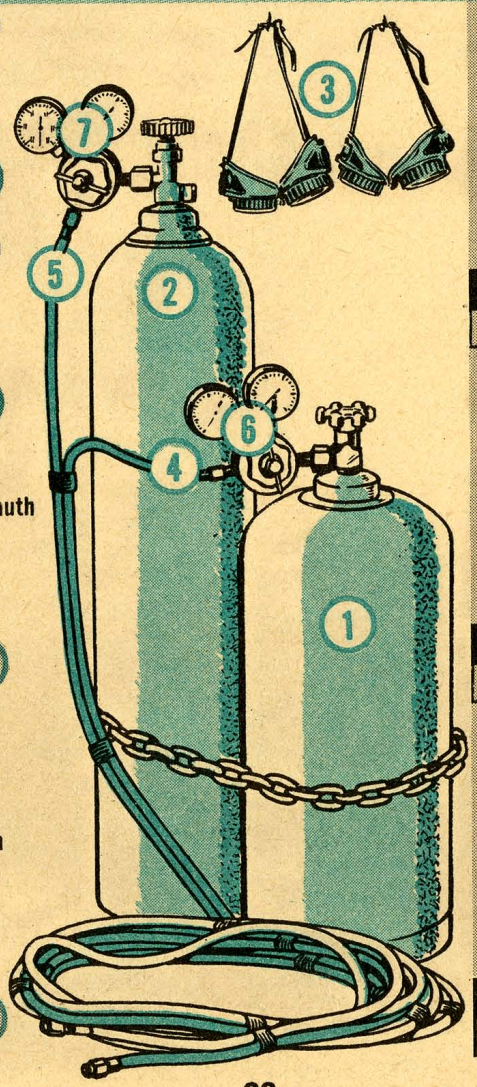
Oxy-acetylene (Ord Stock No. 41-T-3545-14) FSN 5180-357-7778

CYLINDER, gas, filled, acetylene, 225 cu ft (comp w/valve) (to be refilled locally) — 1 auth
ENG 51-5116.100.500 — 1

CYLINDER, gas, filled, oxygen, 220 cu ft (comp w/valve) (to be refilled locally) — 1 auth
ENG 51-5116.800.500 — 2

GOGGLES, eye cup protective, overspectacle type, welder's glare, fl lens, w/cover and filter lens — 2 pr. auth
ENG 37-4458.660.110 — 3

HOSE, gas, acetylene, braided, red, w/LH thd female connections on both ends attached by crimped br ferrules, 9/16-18 NF-3 thd, 5/16-in ID, 12-1/2 ft lg — 1 auth
ORD 33-H-398
FSN 3432-449-6632 — 4

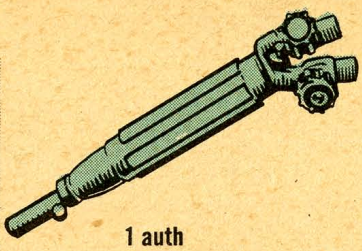


HOSE, gas, oxygen, braided, green, w/RH thd female connections on both ends attached by crimped br ferrules, 9/16-18 NF-3 thd, 5/16-in ID, 12-1/2 ft lg — 1 auth
ORD 33-H-452
FSN 3432-449-6635 — 5

REGULATOR, acetylene pressure, cutting and welding, w/coupling, adpt and out-let connection, two ga, 0 to 50 and 0 to 500 lb, diam of dial 2-1/2-in — 1 auth
ORD 45-R-3502
FSN 3432-449-7510 — 6

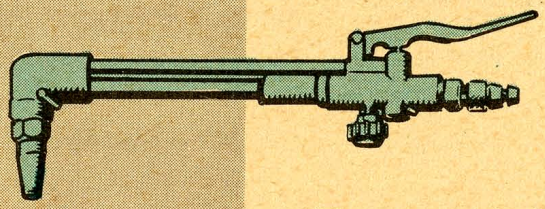
REGULATOR, oxygen pressure, cutting and welding, w/coupling, and out-let connection, two ga, 0 to 200 and 0 to 3,000 lb diam of dial 2-1/2-in — 1 auth
ORD 45-R-3533
FSN 8120-281-8193 — 7

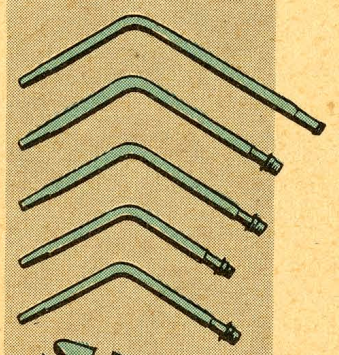
TORCH, oxy-acetylene, med duty, welding and cutting, w/wrench, cutting attachment and tips



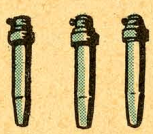
1 auth

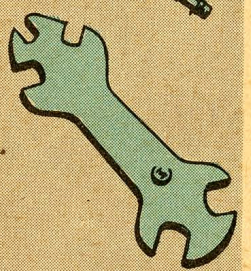
ORD 41-T-3812 | FSN 3432-294-6743

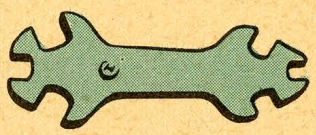




(These are made by different manufacturers so your torch may not look like the one shown. Most of them have three cutting tips but the number of welding tips vary—you may have any number from five to seven)



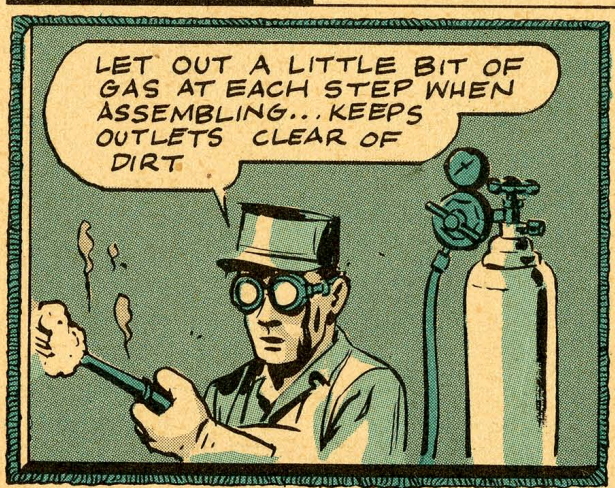




WRENCH, torch and regulator, oxy-acetylene

1 auth

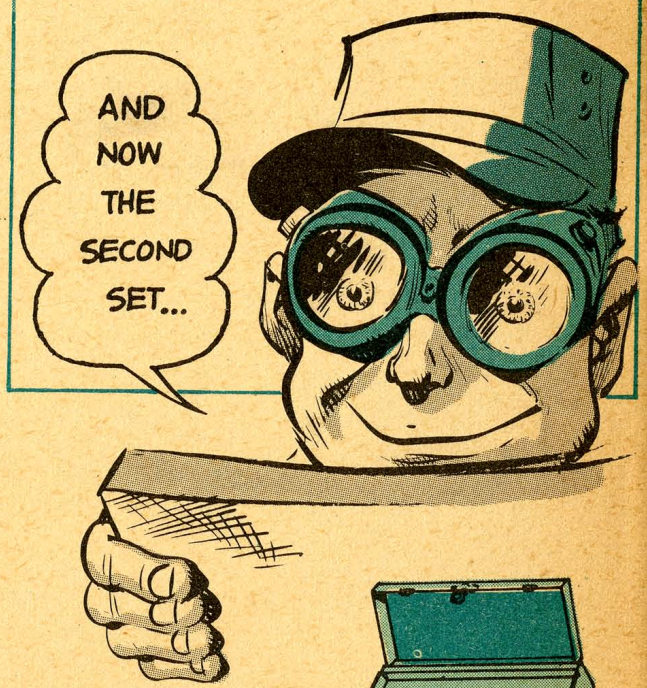
ORD 41-W-1600 | FSN 5120-449-8179

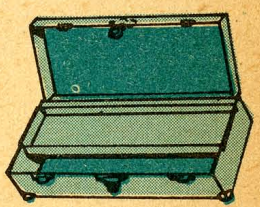


FSN 3432-754-0661

Tool Set, Welder's

Ord Stock No. 41-T-3554-975





CHEST, tool, empty, metal, coml design w/ tray, size 7x7x16-in

1 auth

ORD 41-C-853 | FSN 7125-652-8243

CHISEL, machst, hand, cold, S, width of cut 1/2-in, lgh 6-in

1 auth

ORD 41-C-1106 | FSN 5110-186-7107

CHISEL, machst, hand, cold, S, width of cut 3/4-in, 8-in

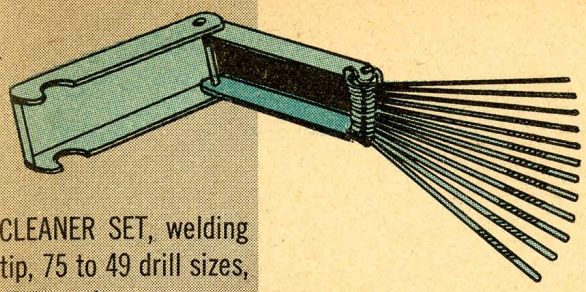
1 auth

ORD 41-C-1124 | FSN 5110-236-3272

CHISEL, machst, hand, dia-pt, width of cut 1/4-in, lgh 5-in

1 auth

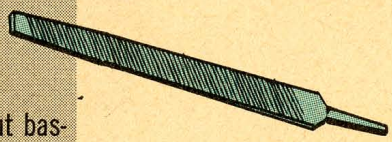
ORD 41-C-1162 | FSN 5110-186-7115



CLEANER SET, welding tip, 75 to 49 drill sizes, 12 in mtl case

1 auth

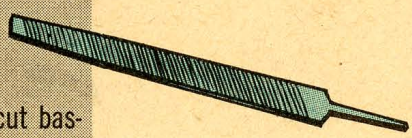
ORD 41-C-2194-700 FSN 3432-383-3634



FILE, AS, mill, cut bastard, lgh point to shoulder 12-in

1 auth

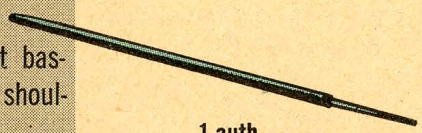
ORD 41-F-1158 FSN 5110-242-5386



FILE, AS, flat, cut bastard, lgh point to shoulder 12-in

1 auth

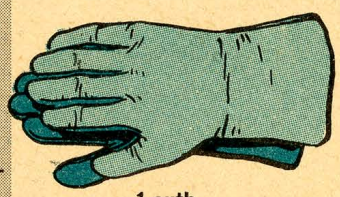
ORD 41-F-863



FILE, AS, rd, cut bastard, lgh point to shoulder 12-in

1 auth

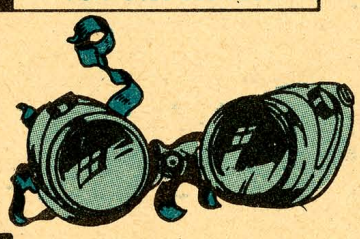
ORD 41-F-1307 FSN 5110-234-6557



GLOVES, leather, welding and working, large

1 auth

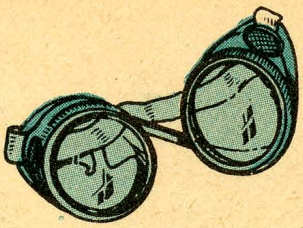
ORD 37-G-2412-10 FSN 8415-268-7859



GOGGLES: eye cup protective, over-spectacle type, welders, glare, flat lens, w/cover and filter lenses

ENG 37-4558.660.110

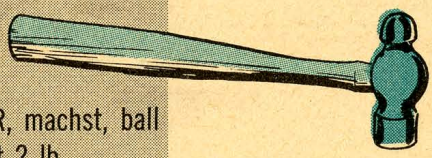
1 auth



GOGGLES, INDUSTRIAL: over-spectacle type, chippers and grinders, plastic curved, clear, one piece plastic lens integral w/frame, opaque frame w/headband

ENG 37-4458.670.200

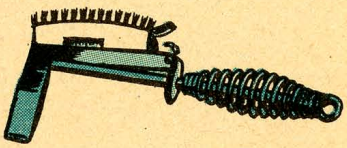
1 auth



HAMMER, machst, ball peen, wt 2 lb

ORD 41-H-527

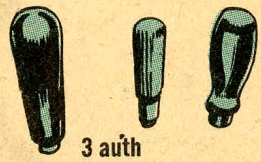
1 auth



HAMMER, welders', chipping, w/wire brush

ORD 41-H-885

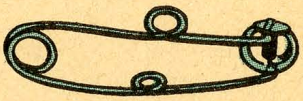
1 auth



HANDLE, file and tool, wood, size large, diam of hand grip 1-1/2-in

3 auth

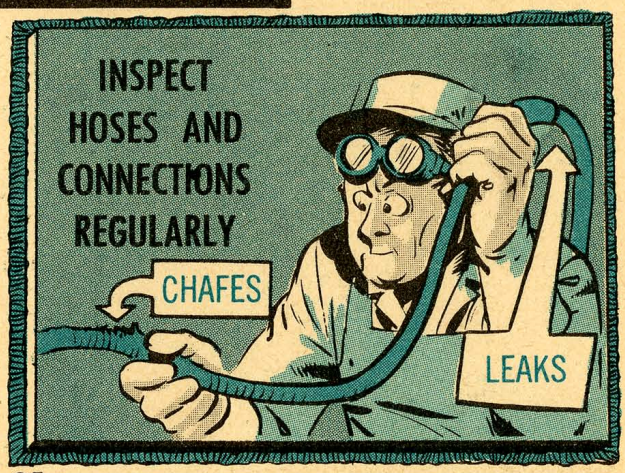
ORD 41-H-1115 FSN 5110-263-0341



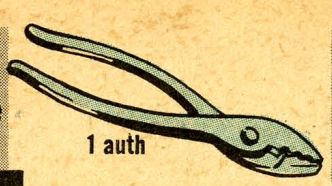
IGNITER, oxy-acetylene torch, revolving file type, with 10 extra tips

ORD 41-I-50

1 auth



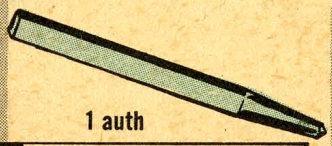
PLIERS, comb, slip jt. w/cutter, nominal size 10-in



1 auth

ORD 41-P-1654

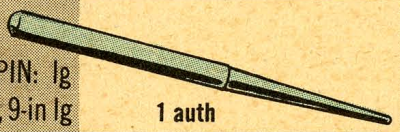
PUNCH, center, oct or rd, knurled, diam 3/8-in, lgh 4-1/2-in



1 auth

ORD 41-P-3185 FSN 5120-197-9488

PUNCH, DRIVE PIN: lg taper, 3/16-in pt, 9-in lg



1 auth

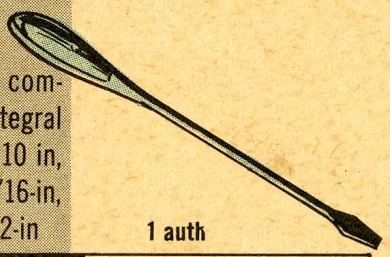
ORD 41-P-3756 FSN 5120-293-1408

RULE, MULTIPLE FOLDING: S, 6 fold

1 auth

ORD 41-R-2751 FSN 5210-239-0489

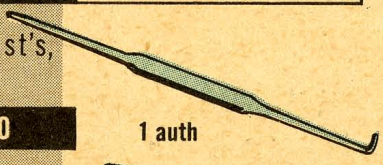
SCREWDRIVER, common, hv-duty, integral hdl, lgh of blade 10 in, width of blade 7/16-in, lgh overall 16-1/2-in



1 auth

ORD 41-S-1078 FSN 5120-236-2092

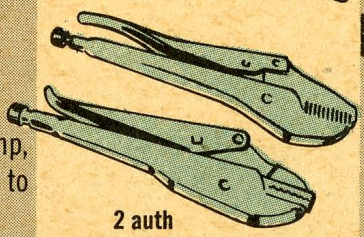
SCRIBER, machst's, bent pt, 9-in lg



1 auth

ORD 41-S-2030

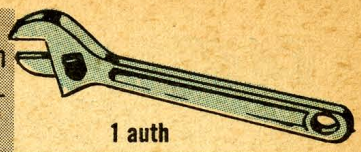
WRENCH, adj, clamp, plier and vise, cap 0 to 1-1/4-in, lgh 10-in



2 auth

ORD 41-W-460 FSN 5120-423-6727

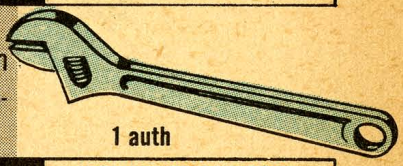
WRENCH, adj, sgle open end, jaw opng 15/16-in, lgh 8-in



1 auth

ORD 41-W-486 FSN 5120-240-5328

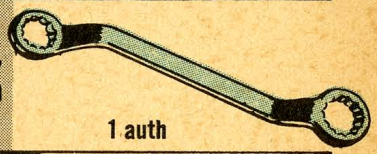
WRENCH, adj, sgle open end, jaw opng 1-5/16-in, lgh 12-in



1 auth

ORD 41-W-488 FSN 5120-264-3796

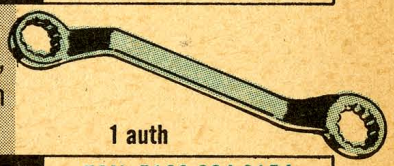
WRENCH, BOX: dble-hd, 12 pt, 3/8- and 7/16-in opngs



1 auth

ORD 41-W-620 FSN 5120-184-8679

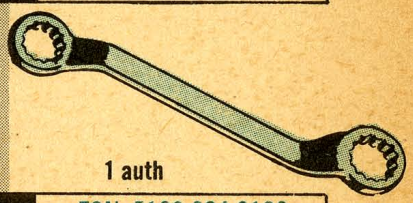
WRENCH, BOX: dble-hd, 12 pt, 1/2- and 9/16-in opngs



1 auth

ORD 41-W-622 FSN 5120-224-3154

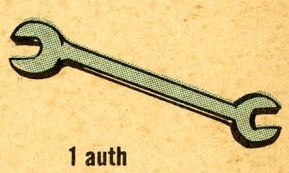
WRENCH, BOX: dble-hd, dble-hex, short, offset 45 deg, size of opngs 5/8- and 3/4-in



1 auth

ORD 41-W-625 FSN 5120-224-3138

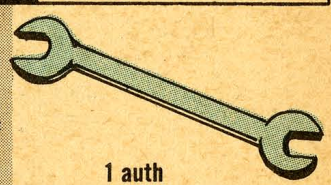
WRENCH, engrs, angle 15 deg, dble open end, spear hd, alloy-S, size of opngs 3/8- and 7/16-in



1 auth

ORD 41-W-991 FSN 5120-277-2342

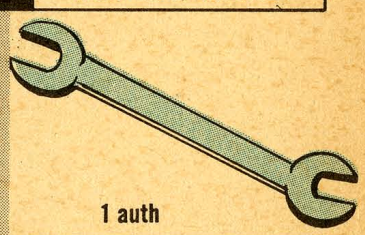
WRENCH, engrs, angle 15 deg, dble open end, spear hd, alloy-S, size of opngs 1/2- and 9/16-in



1 auth

ORD 41-W-1002-40 FSN 5120-187-7124

WRENCH, engrs, angle 15 deg, dble open end, spear hd, alloy-S, size of opngs 5/8- and 11/16-in



1 auth

ORD 41-W-1007-60 FSN 5120-277-8301

CHEMICAL

For a real smoking treat...

Try This Light-Up Treatment

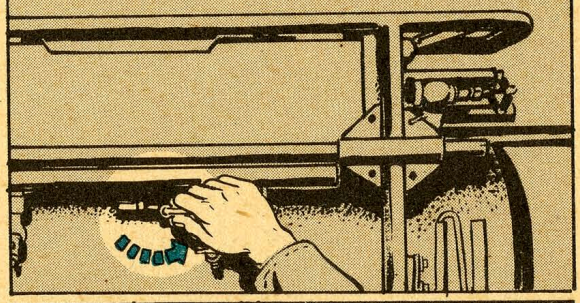
In a fogging machine, it's the smoke that counts. And your M3A2 generator is guaranteed to give you that cool, smooth, satisfying fog. In fact, smoke so rich, so fine, so fair, your hand can't tell the oil is there. And you don't need a filter, either . . . not if you use these tips.

First off, let's suppose you've done the before-operation checks like it says in TM 3-431 (pages 44-45).

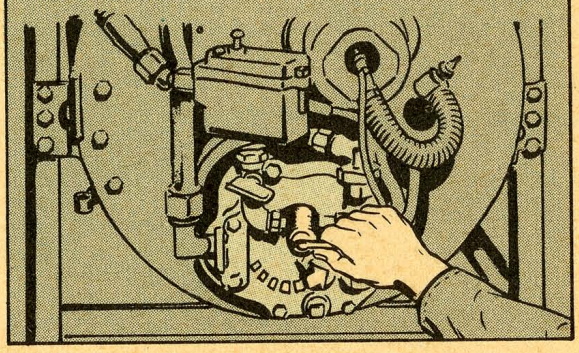
You've fully stroked the pump to get rid of any moisture in the combustion chamber. You've made sure the fog-oil standpipe's fastened to the drum like it should be. And the hose-assembly oil shut-off and air shut-off valves are wide open.

All set? Then you're ready to light her up for a king-size smoke. Here are ten simple steps to follow for safe starting:

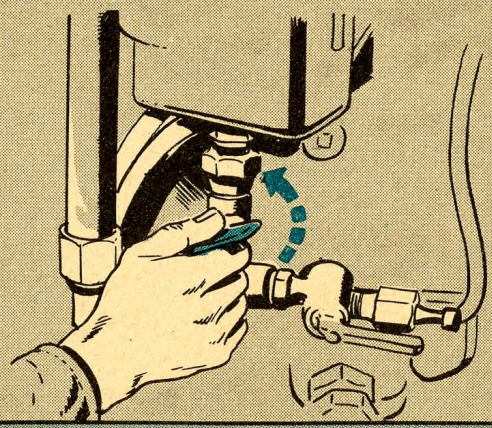
1. Open the gas tank shut-off cock by turning the handle parallel with the fuel line.



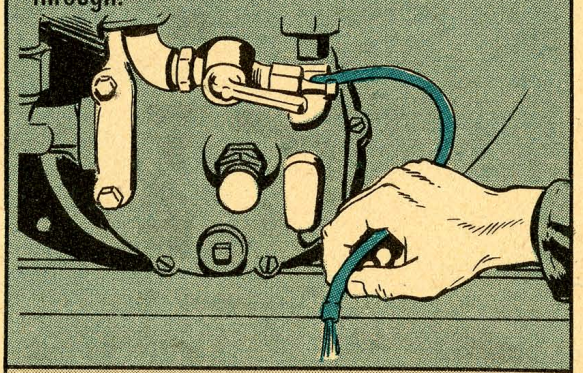
2. Turn on the fuel shut-off cock below the float-bowl by turning the handle parallel with the fuel lines.



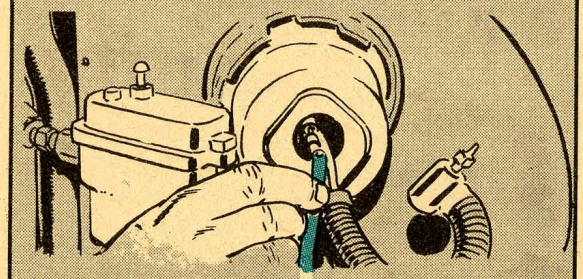
3. Open the fuel-metering valve all the way by turning the handle counterclockwise.



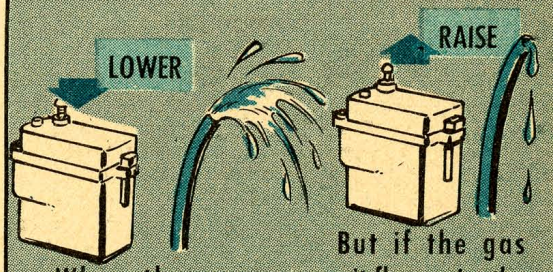
4. Pull the fuel hose off the flowjector. Aim it at the ground (or into a container if your smoker's mounted) to drain water from the float bowl. Drain till gasoline starts coming through.



5. Raise the fuel hose and hold its free end 1/4 to 1/2 inch below the flowjector. When the gas just barely oozes out of the hose, slip the hose back on the flowjector. With this fuel-flow check you make sure that the float-bowl gas level is in line with the flowjector intake.



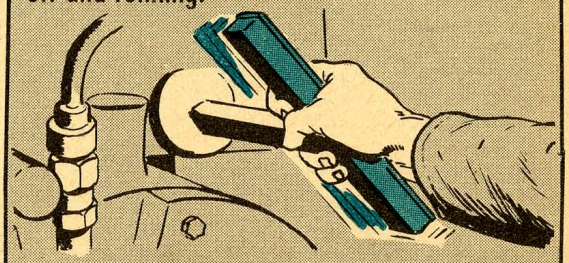
If the gas doesn't ooze out when the hose is held within the required distance from the flowjector, or if it gushes out, it means you'll have to adjust the float-bowl. But that's no sweat . . . you can move the bowl up or down on its bracket by loosening the two bolts located in back of the bowl.



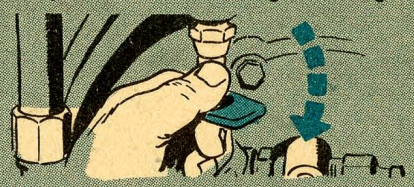
When the gas flow's too fast you lower the float-bowl.

But if the gas won't flow, raise the bowl until it does ooze through the hose.

6. Now she's ready to go. Give the magneto-air pump two or three full strokes (but do it gentle-like) and the pulse-jet engine's off and running.



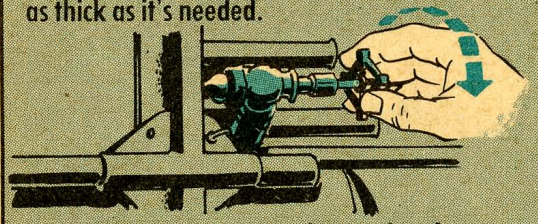
7. Close the fuel-metering valve slowly until the engine fires smoothly. It won't take long to train your ear for the steady, solid, dull sound you get when the pulse-jet engine is firing in good order. A fast, clattering tempo that hurts your eardrums means the gas flow's too lean. Open the fuel-metering valve slightly.



Or if you get an off-beat cough and clatter, it can mean the fuel mixture's too rich. In this case, you press the float-bowl plunger for a moment and watch the pressure gage. If it goes up, close the fuel-metering valve slowly until you get the fuel mixture adjusted for good firing.

8. When the fog oil pressure gage reaches 3-PSI, flick on the fog-oil shut-off valve. If it doesn't show 3-PSI, stop the smoker and check the pressure, gas and fog-oil (SGF) systems for leaks.

9. Now, as you gradually open the fog-oil metering valve, out shoots the start of your smoke screen. Open the valve until the smoke's as thick as it's needed.

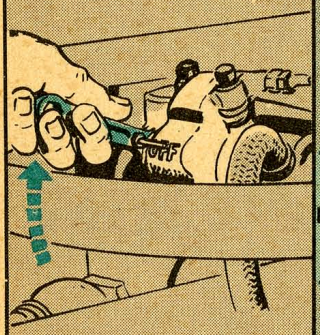


Careful—Never operate the smoker for more than 60 seconds without SGF.

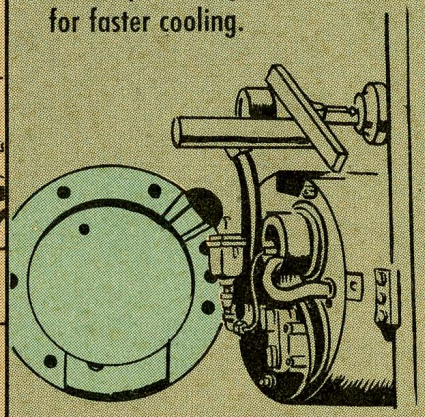
10. To test for good smoke, run your bare hand through the smoke stream. An oily hand means she's getting too much fog oil. Back off the fog-oil metering valve a bit and try the hand test again. When your hand comes back dry, the fog oil adjustment's OK.

Smoker Stopping Tips

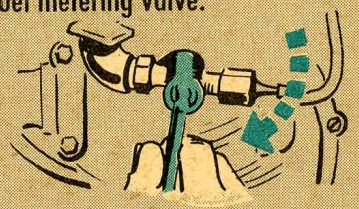
1. Close the fog-oil shut-off valve.



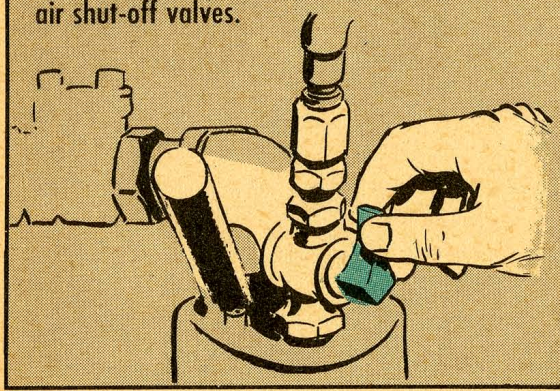
2. Open the generator door for faster cooling.



3. When she stops putting out smoke, close the float-bowl shut-off cock. **Careful**—Always use the float-bowl shut-off cock to turn your smoker off. Never stop your smoker by closing the fuel metering valve.

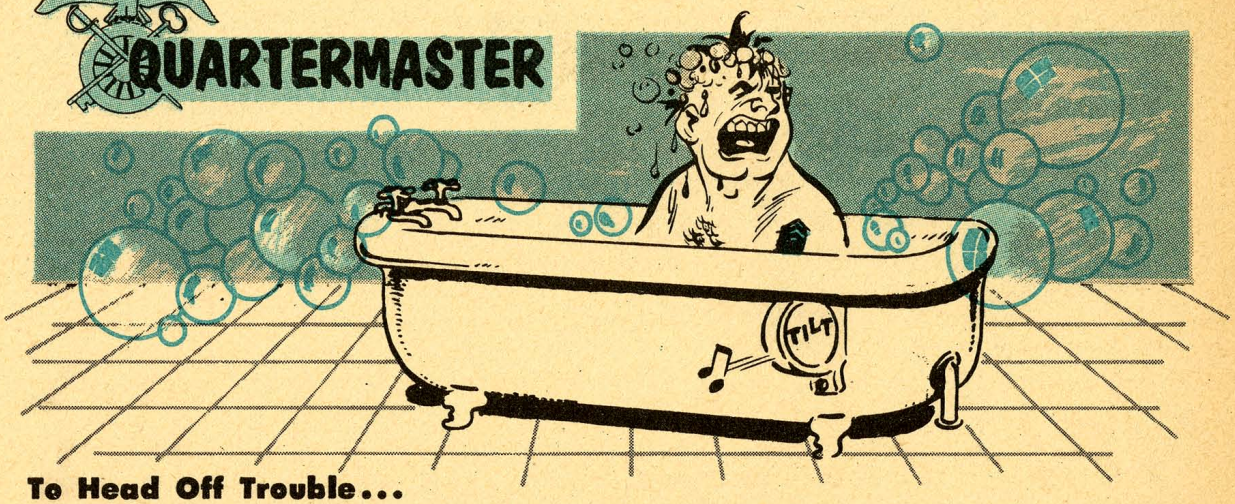


4. Close the standpipe assembly fog-oil and air shut-off valves.



5. Any time the smoker stands around idle for a long spell, or if it's to be transported, close the gas-tank fuel valve and the fog-oil metering valve. These valves don't need to be closed when the smoker's to be fired up again before it has time to get cold.

Release the pressure in the drum by disconnecting the pressurizing hose and opening the air shut-off valve.



To Head Off Trouble...

Watch the Bubble

You can't be too careful when it comes to leveling your mobile bath unit.

If that boiler is tilted as much as a cat's whisker when you're operating, you're likely to create an air pocket in the upper end of the water jacket.

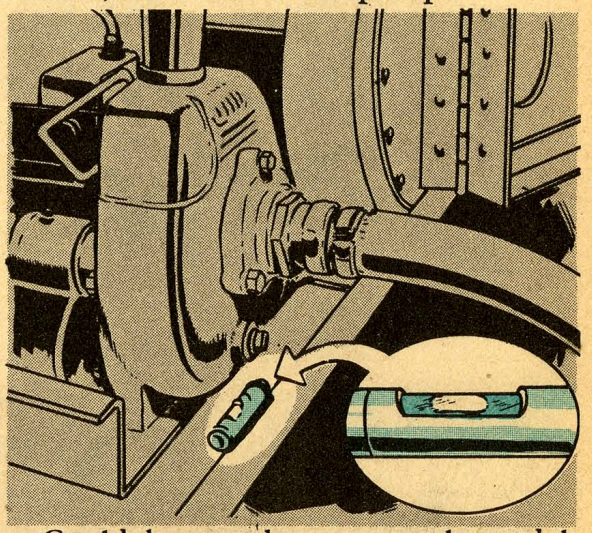
And that might mean some red-hot headaches.

Those firing tubes inside the unit get as hot as a tin roof in Hades. They have to make a lot of heat so the water is right for showering.

The water gets hot as it travels 'round the tubes. At the same time, it cools the tubes. So what happens when the unit isn't level? An air pocket develops in the upper end of the heating unit. It won't let the water get to the coil to cool it down.

The next thing you know, the coil overheats and burns out, bringing your operation to an abrupt halt. And you're left with a hot trailer on one hand and a group of TO'd GI's on the other. It could be dangerous.

So make sure the trailer unit is level when you set it up, and keep checking to make sure it stays that way. You'll find the level indicator on the trailer chassis, near the water pump.



Could be you have an early-model unit that didn't have a level indicator on it when you got it. If so, requisition the level and its attaching nuts and bolts through QM 7 & 8 SPV 23.

All the poop is on page 38. Once you get hold of the parts, attach the level like it says in TM 10-1405. You'll also want to see MWO 10-1405-1 for more dope on that level.

Bump and Grind

Dear Connie,

It gripes me to see how the tarpaulins on our mobile laundry units chafe and wear every time the vehicles hit the road.

Vibration causes the canvas to rub against the pipes, valves and knobs. In no time at all we've got holes in our tarps.

Got any suggestions?

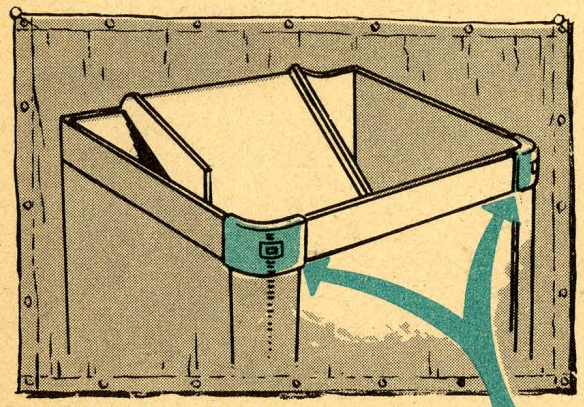
Lt R. M. C.

Dear Lt R. M. C.,

You've put the finger on a sore point, all right. But there's an answer.

Hustle over to field maintenance and have them apply MWO 10-1680A-4 (w/Ch 1) dated 11 May 55.

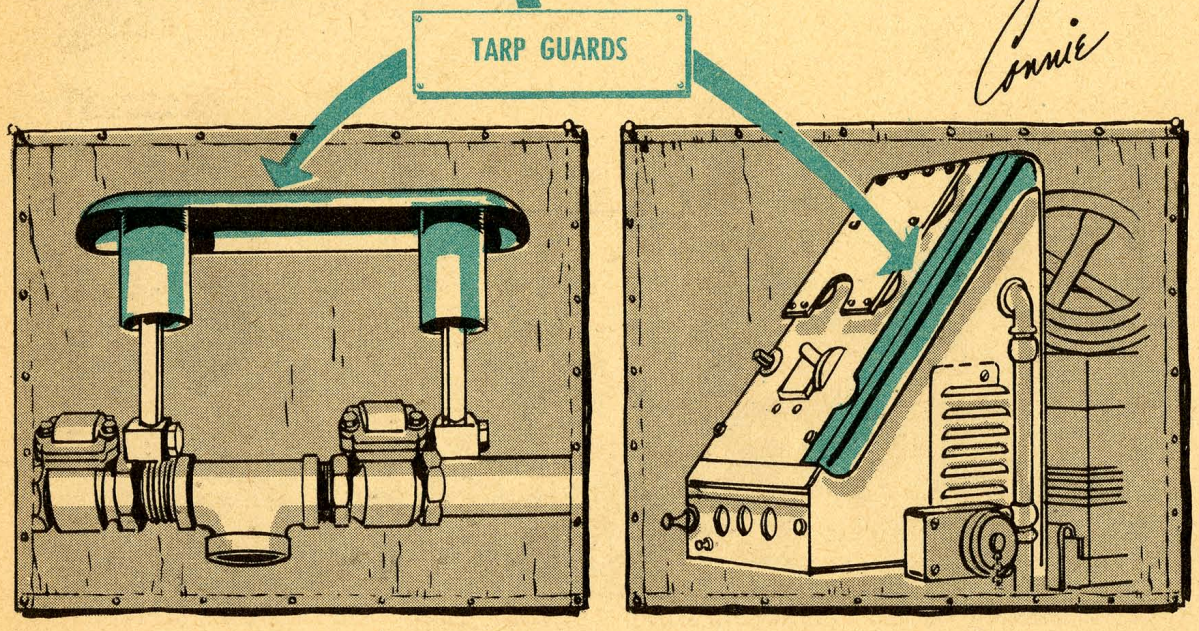
It takes the sharp edge off the problem by calling for several thin metal shields where they'll do the most good.



Those shields cover the major points of irritation like washer drain-bin corners, instrument control-box panel, washer water-inlet-valve and air-cleaner bracket.

Those shields will reduce maintenance on the tarp...increase its life... and help take the strain out of putting the tarpaulin in place.

Connie



The Nike Elevator

DON'T GET ON WITHOUT A TICKET

Everybody's telling the one about the new recruit in green fatigues and shiny boots assigned to a Nike launching area.

Seems the sarge is showing this recruit around the pit, see. In the course of giving clues on how the sun rose and set in that area, the sarge mentions that a trip ticket is filled out on the elevator.

Wait a minute, the recruit says. I heard you have to fill out one of them things on a jeep, tractor, and even a generator that never moves. But if I have to do all that paper work every time I ride up and down this elevator, I'll resign.

Course, when the recruit found out that a DD 110 is the only written way he has of spot-checking elevator operation every day, and only one form is used a day, he didn't resign (or even try to).

And the sarge reminded him to make these changes and write in these items in the PREVENTIVE MAINTENANCE SERVICES part of the trip ticket to get a complete daily check.

TEAR OFF PORTION

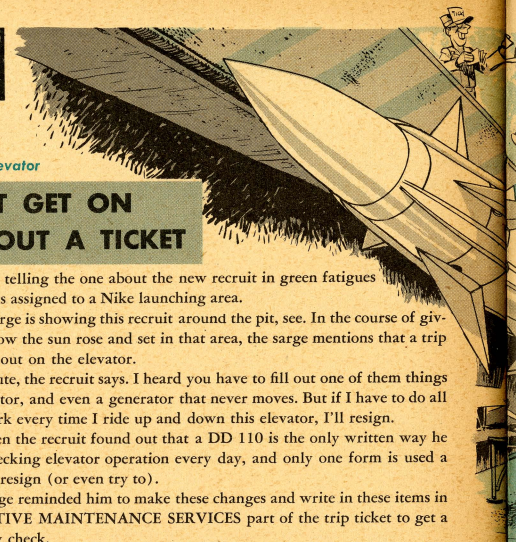
PREVENTIVE MAINTENANCE SERVICES

LEGEND
√—O. K.
X—DEFECTIVE
* ~~WEEKLY SERVICE~~

DATE	TYPE	REGISTRATION NO.	UNIT NO.

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE					INSTRUMENTS					LIGHTS ~~AND REFLECTORS~~				
LEAKS ~~GENERAL~~ HYDRAULIC					~~BRAKES~~					SAFETY DEVICES				
~~FUEL, OIL, WATER~~					~~CLUTCH~~					~~BRAKES~~				
~~ENGINE WARM-UP~~					~~STEERING~~					AIR TANKS ~~(Drain)~~				
INSTRUMENTS					~~ENGINE OPERATION~~					~~FUEL, OIL, WATER (Refill)~~				
SAFETY DEVICES					UNUSUAL NOISES					* DRIVE BELTS				
TOOLS AND EQUIPMENT					DOOR CLOSED CHECK					* ~~BATTERY LEVEL~~				
PUBLICATIONS					ELEVATOR CYCLE-UP					* ~~ANTI-FREEZE~~				
VISUAL INSPECTION					LOCKING BARS ENGAGED					* ~~TIRES (Damage) (gage)~~				
LUBRICATION					ELEVATOR CYCLE-DOWN					* CLEAN (As required)				
HYDRAULIC OIL LEVEL					PEDESTAL ADJUSTMENT					HYDRAULIC OIL LEVEL				
LOCKING BARS RETRACTED					DOOR OPEN TIMING					LEAKS HYDRAULIC				
					LEAKS HYDRAULIC					DOOR CLOSING				
										VISUAL INSPECTION				

ENGINEERS
SGT DOZERS
DIRT-STIFF CLINIC



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LEGEND
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X—DEFECTIVE
~~*—WEEKLY SERVICE~~

DATE | TYPE | REGISTRATION NO. | UNIT NO.

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE					INSTRUMENTS					~~LIGHTS AND REFLECTORS~~				
LEAKS ~~GENERAL~~ HYDRAULIC					~~BRAKES~~					SAFETY DEVICES				
~~FUEL, OIL, WATER~~					~~CLUTCH~~					~~BRAKES~~				
~~ENGINE WARM-UP~~					~~STEERING~~					~~AIR TANKS (Drain)~~				
INSTRUMENTS					~~ENGINE OPERATION~~					~~FUEL, OIL, WATER (Refill)~~				
SAFETY DEVICES					UNUSUAL NOISES					* DRIVE BELTS				
TOOLS AND EQUIPMENT					DOOR CLOSED CHECK					~~*BATTERY LEVEL~~				
PUBLICATIONS					ELEVATOR CYCLE-UP					~~*ANTI-FREEZE~~				
VISUAL INSPECTION					LOCKING BARS ENGAGED					~~*TIRES (Damage) (pops)~~				
LUBRICATION					ELEVATOR CYCLE-DOWN					* CLEAN (As required)				
HYDRAULIC OIL LEVEL					PEDESTAL ADJUSTMENT					HYDRAULIC OIL LEVEL				
LOCKING BARS RETRACTED					DOOR OPEN TIMING					LEAKS HYDRAULIC				
					LEAKS HYDRAULIC					DOOR CLOSING				
										VISUAL INSPECTION				

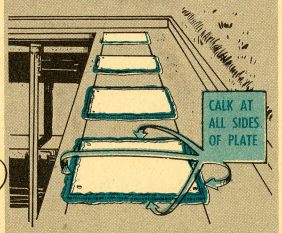
DRIP...DRIP...DRIP

Dear Sgt Dozer,

We have a rough time at our Nike site after every rain. Water leaks around the access plates and runs down into the pit. Normally we have no reason to open the plates and they're usually closed a couple of months at a time.

'Specially after a heavy rain, it gets sloppy down there and it's pretty miserable all the way around. Maybe you've heard of some of the other missile batteries having the same trouble. Can you give us a fix for this, Sarge?

MSgt A. C. E.



Dear Sgt A. C. E.,

Calking compound's the answer. Do a good job putting it around the plates after they're bolted down and you'll be 100 proof—weatherproof, that is—down below. Order what you need in 1-gal cans under Compound, calking, knife grade, FSN 8030-241-2741.

Sgt Dozer

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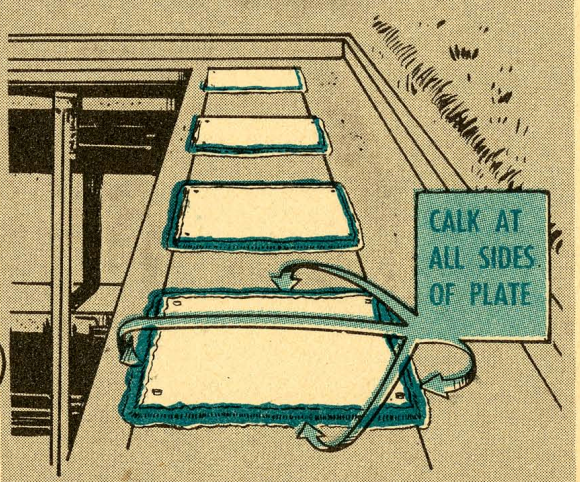

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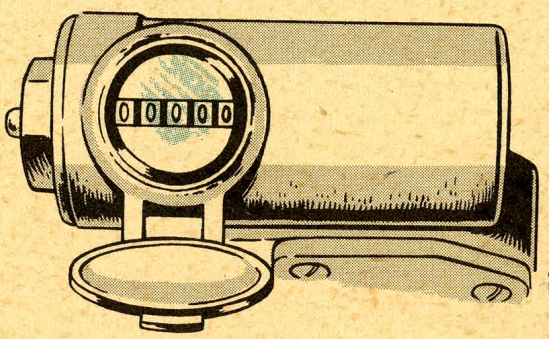
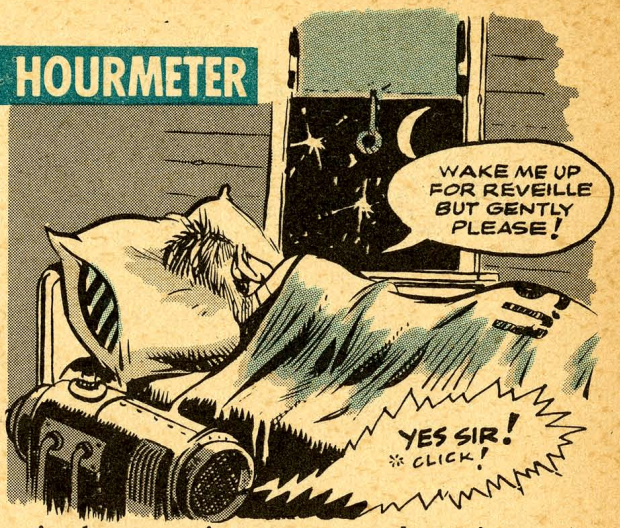
Sgt Dozer

TAKE TIME FOR THE HOURMETER



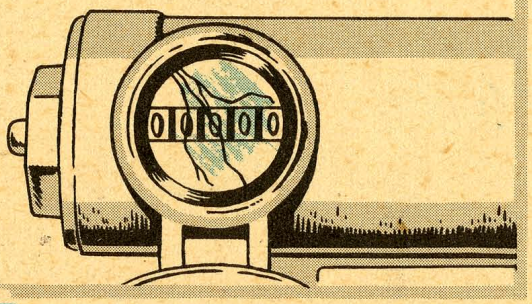


The hourmeter for heavy equipment is the most important gadget since race tracks got electronic brains to figure how easy it is to lose money on a horse.

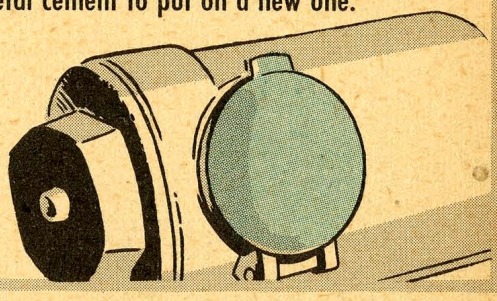
In the old days, operators had to make a good guess on when to do the different maintenance jobs on their rigs. With the hourmeter, maintenance time is made regular as reveille.

Along with doing maintenance when those little numbers tell you, take good care of the hourmeter so it'll keep working and always give the right "time."

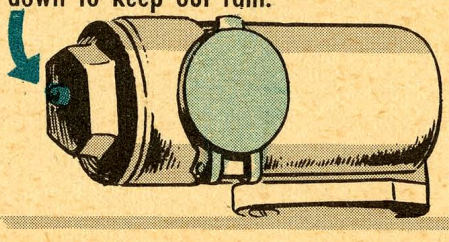
1 Replace a broken or cracked glass quick.



2 Keep the cover closed and well-sealed. If the gasket is lost or goes bad, use rubber-to-metal cement to put on a new one.



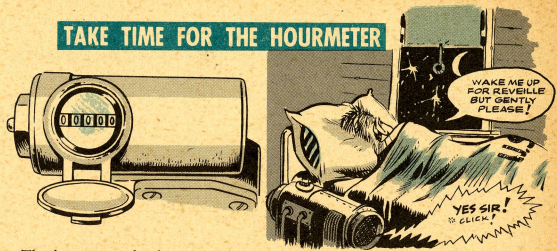
3 Your hourmeter should have a vent to prevent condensation inside. If it doesn't, ask field maintenance to vent it. They'll put on a new end-cover or fix the one you've got to make sure the vent hole is always pointed down to keep out rain.



4 Keep the glass clean.

5 If the hourmeter stops working or seems to be fouled up and you still have to operate the equipment it's on—dial field maintenance. Never be without that little index to maintenance.

TAKE TIME FOR THE HOURMETER



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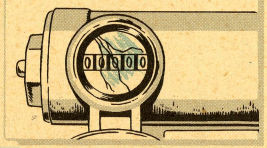

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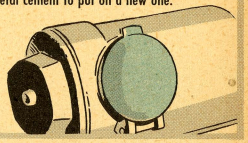

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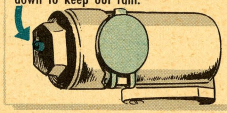

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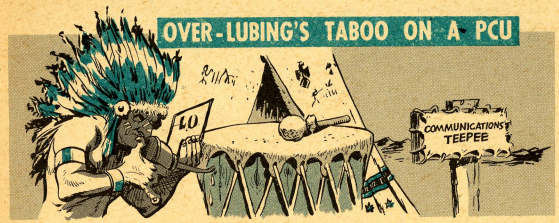
OVER-LUBING'S TABOO ON A PCU



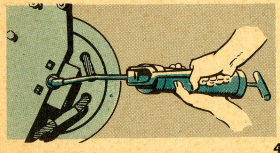
Nothing like keeping equipment well-lubed, but a grease-happy grease-monkey sometimes does more harm than good.

Like on the LeTourneau Models R, T, FTD7 and N Series power control units. The drum shaft on those models is supposed to be ⅔ full of grease.

Get more than that, and the grease is forced out through the seal. It gets on the clutch cone and causes overheating.

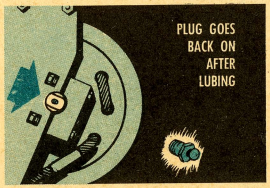
It usually happens this way: When grease does have to be added to the drum shaft, the brass plug on the shaft

is switched for a zerk fitting so a grease gun can be used.

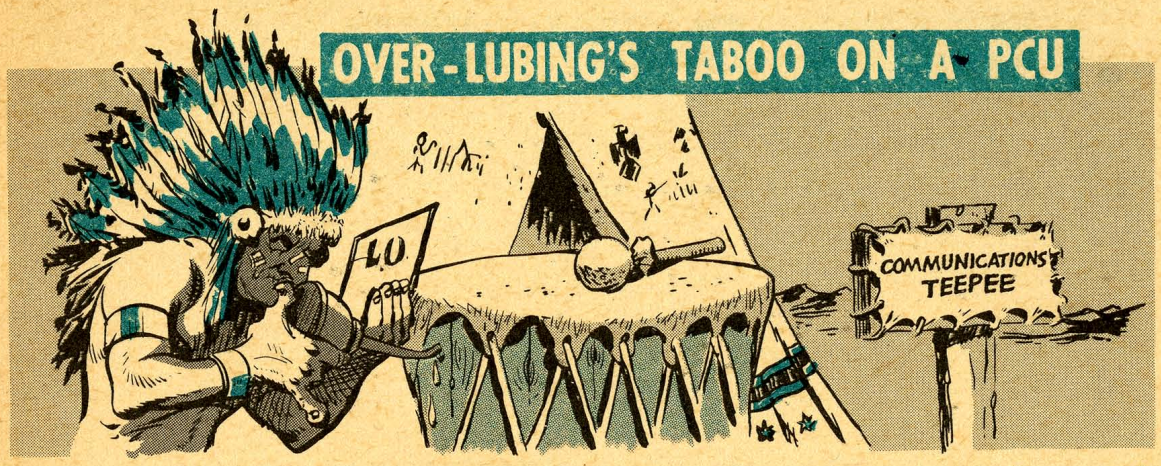


After the right amount of grease is added, **the brass plug should be put back in again.**

Trouble is, some guys forget to do that. With that zerk fitting there all the time, the drum shaft is likely to get a shot of grease when the regular lubing is being done. Or when some gung-ho luber wanders by with a grease gun.



So keep that brass plug on the drum shaft—except when actually adding grease. That should be very seldom. Once in a while the leather in the oil seals will overheat and lose a little grease. When that happens, add enough to keep the shaft ⅔ full. The other 99.99 per cent of the time, keep the brass plug in the shaft.



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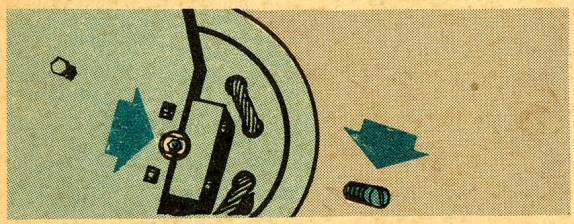

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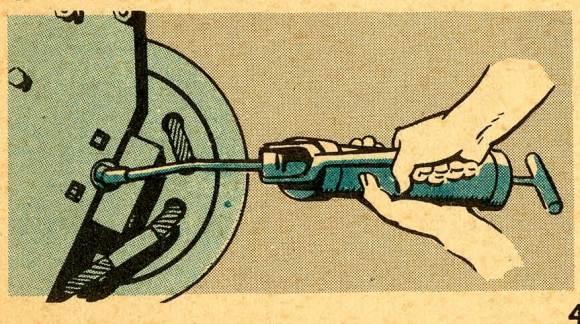

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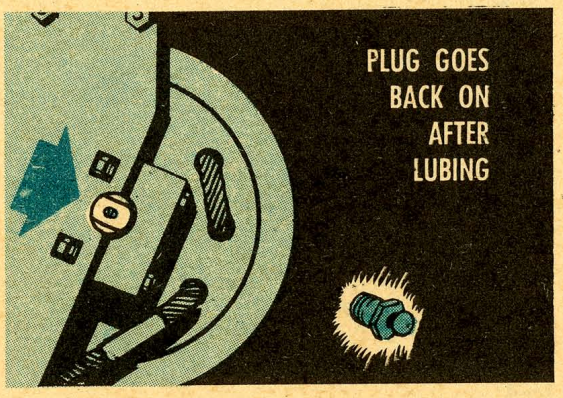

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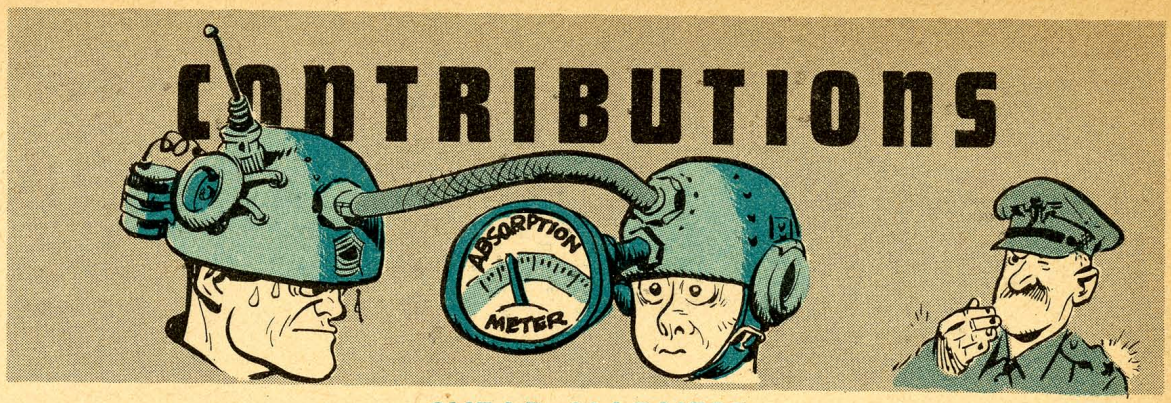


SHEAR MADNESS

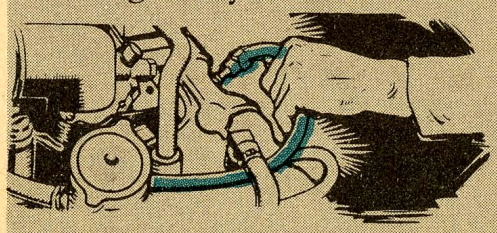
Dear Editor,

Here's something some men ought to remember . . . next time they replace a spark plug in any of their M-series trucks.

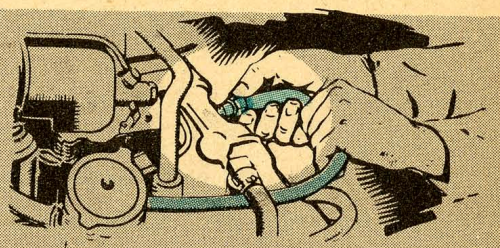
We found that some waterproof spark plug cables have been shearing off at the distributor end because some men aren't careful the way they screw the cable onto the plug.

What's happening is this: With the cable screwed onto the distributor, they're screwing the cable onto the spark plug by turning the whole nut and cable. This causes the inner cable to twist where it goes into the distributor. It twists and twists and finally breaks.

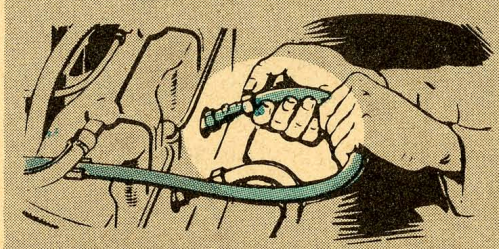
The right way to do it is this way:



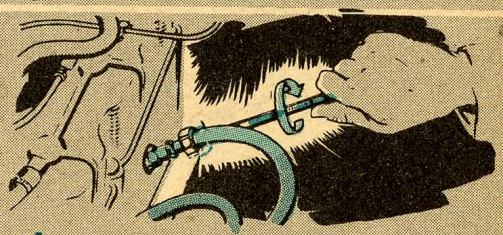
1 Grab the cable tightly with one hand and hold it still.



2 With the other, turn only the nut and screw it onto the threaded end of the spark plug— be careful not to cross-thread it.



3 Screw the nut on finger-tight and, while doing this, make sure the cable doesn't twist.

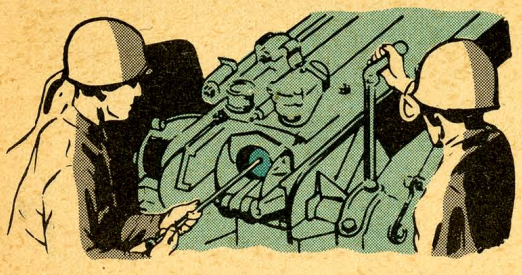


4 Then, with your ignition harness wrench, FSN 5120-795-0895, (Ord Stock No. 41-W-871-062) tighten the nut so it's nice and tight. Careful— don't overdo it or you'll strip the threads.

OCMT T L Brack
Fort Benning, Ga.

(Ed Note—Good, worthwhile info—this.)

DO-IT-YOURSELF KIT

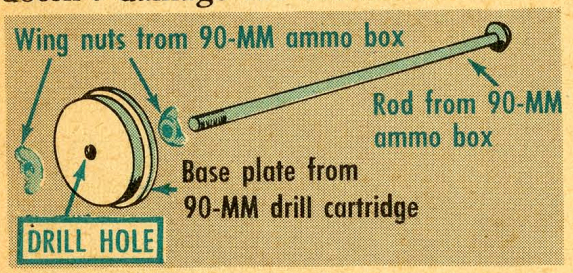


Dear Editor,

You can never tell when you can whip some used parts together and wind up with a useful gimmick.

Take the wing nuts and rod from the 90-mm ammo box and the base plate from a 90-mm drill cartridge as a f'rinstance. We used the parts to make a tool for tripping the extractors on the M2 90-mm gun.

We push the base plate part of the tool against the extractors and hold back a little on the breech opening handle so the brech block doesn't close on the rod. The breech block closes with no trouble and the brass base plate doesn't damage the extractors.



The picture shows how the parts go together. You've gotta drill a hole through the center of the base plate to get the rod through.

SFC William L Timmons
College Park, Md.

(Ed Note—Real deal. It'd be a good idea to turn that base plate around so's you'll be more likely to hit the extractors even.)

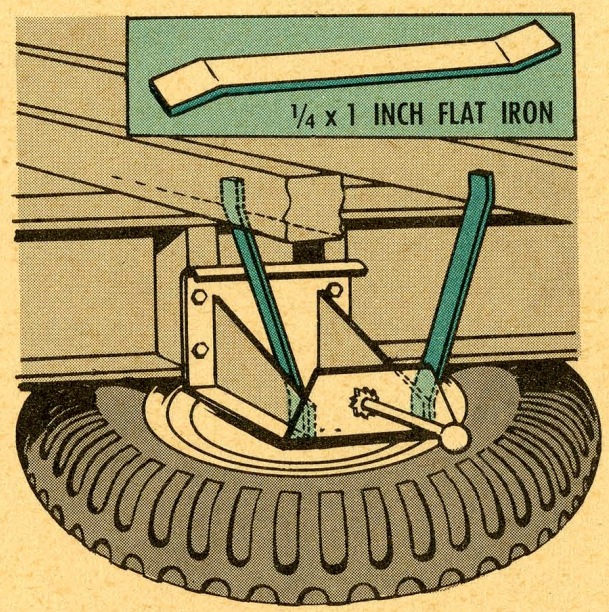
HOLD THAT TIRE

Dear Editor,

This transportation company has been hexed by spare tire racks busting loose on the M127 12-ton trailers. The way the rack is set up, a lot of strain and stress is put on the metal. The bolts either break away from their moorings or the metal breaks.

We've added just a little simple fix to these racks and have had no trouble since.

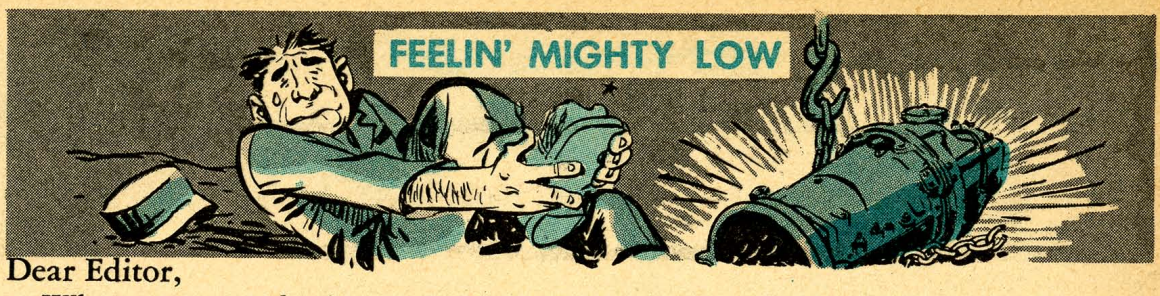
What we did was weld two pieces of ¼ x 1-inch flat iron to the top side of the rack. Then, we welded both pieces to the trailer's cross members.



This gives that rack plenty of support and keeps that off-centered mounted tire in place, so it won't give out while a man is hauling a load.

Lt James P Brady
APO 164, New York, N. Y.

(Ed Note—Sounds good and works just as good. But, be sure and get in those UER's on those faulty tire racks.)



Dear Editor,

When our second echelon shops got that G749-series 2½-ton truck's transmission out of the vehicle—with our Ordnance support unit's OK, of course—they used to have a heckuva time trying to juggle and balance the thing. So, we got together with them and thought up this easily-made gimmick to give those transmissions some support when they lifted 'em with a hoist for a going over.

Use to be they'd have to attach their hoist the best they could, and then haul, pull, push while trying to keep the transmission in perfect balance. But now, with this lifter, it's an operation which can be done nice and easy like. Lots safer, too.

Here's how to make this lifter:

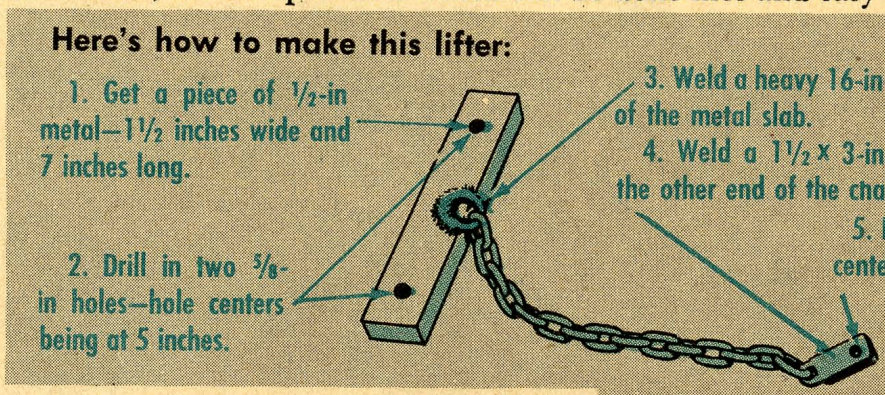
1. Get a piece of ½-in metal—1½ inches wide and 7 inches long.

2. Drill in two ⅝-in holes—hole centers being at 5 inches.

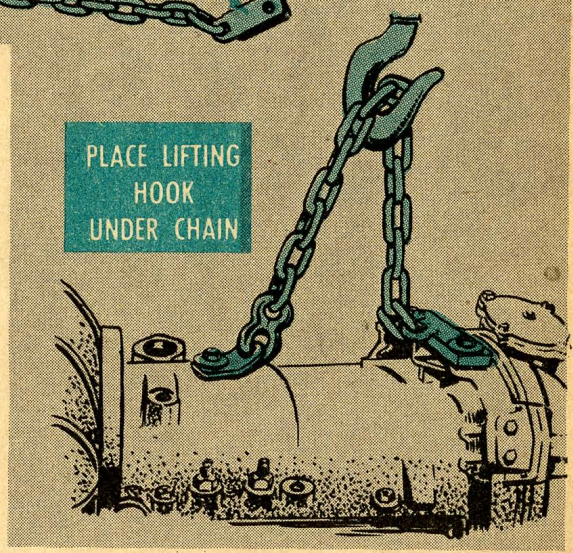
3. Weld a heavy 16-in long chain to the center of the metal slab.

4. Weld a 1½ x 3-in piece of ½-in iron to the other end of the chain.

5. Drill a ⅝-in hole in the center of the ½-in slab.



Now, when you go to lift the transmission, after you've dropped her from the bottom of your truck like TM 9-8024 says, bolt the two-holed slab to the two holes in the front of the transmission's reduction unit—the two holes that hold the bracket on which the front of the shift tower is held. The one-holed piece of iron is bolted to the hole in the middle of the transmission case—the hole that holds the bracket on which the rear of the shift tower is held.



The hoist's lifting hook is put under the chain, and up she comes.

Maintenance Shop, 3d Div
Fort Benning, Ga.

(Ed Note—You can get the same results by using three lifting eyebolts (Ord Stock No. 41-B-1586-300). Screw 'em in the same way you screw the fabricated lifter in, and tie 'em together with a piece of short chain or cable.)

Connie Rodd's BRIEFS

In the dark?

No wonder you can't use two BA-30 batteries in your M26 fuze setter . . . they're too big. You want two BA-42 batteries, instead. FSN 6135-120-1010 will get you a BA-42.

GO for GAA

M123 10-ton truckers, take heed! Experience has shown that those winches on your trucks would be better off with GO universal gear lubrication in their gear boxes. GO, I say.

Grind 'em down

M59 APC hull-stiffeners have been cracking behind the left and right engine access panels because of the strain of normal operation. MWO Ord G280-W5 (11 Feb 57) tells you how to head off that cracking in one easy operation, and it's an organizational job.

Reprieve

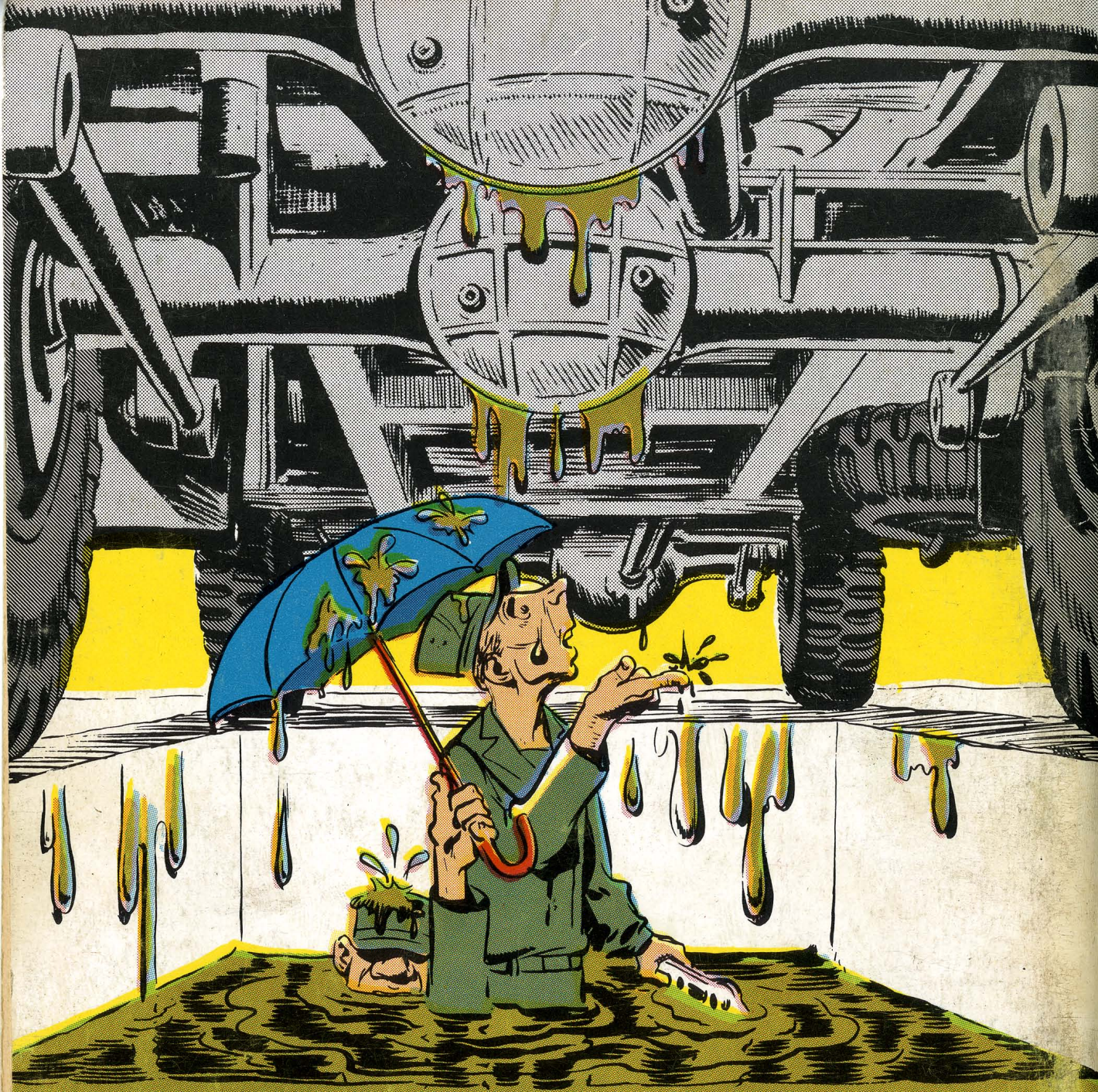
If you've been changing that air-compressor-to-governor line on your G742 2½-ton trucks every year, forget it. Seems experience has shown that they don't need changing this often. So, leave her be for 25,000 miles—then change her.

No cut-ups wanted

You Nike-Ajax mechanics wanna be careful in applying MWO Ord Y2-W5. The MWO says to cut the N32 and P180 wires about ½-in from the grommet in the accumulator fairing. Don't get frisky and cut the H22 wire. The H22 wire supplies 110-volt power to the battery heater blanket and also to the heaters which were put in the missile by MWO Ord Y2-W2.

Brake it

If you're running 'round in a G742- or G749-series 2½-ton truck, a G744 5-tonner, or a G792 10-ton truck that's being used as a prime mover for trailers and towed artillery equipped with electric brakes, here's news. You can now have an electric brake kit (Ord Stock No. G742-5701909) put on your truck. Either Ordnance or your second echelon shop supervised by Ordnance will do the job like it says in TB Ord 667 (24 Jan 57).



DON'T BE A DRIP

- IF IT'S A LEAK... Check Breathers, Lube Level, Seals, Bolt Tightness
- IF IT'S JUST A SEEP... Leave It Alone!

STOP THOSE LEAKS... BEFORE THEY STOP YOU!